



MATERIAL SAFETY DATA SHEET

Form WI04-11A Rev. 1

Part Number(s):
100-1XX, 100-2XX-XX,
100-3XX-XX, 100-4XX-XX

Product Name: In-Ovation-C
(For coating on the base of the bracket)

Release Date: 9-20-2006

1. Product and Company Identification

| | |
|--|---|
| Trade Name & Synonyms In-Ovation-C | MSDS Code Number Refer to part number |
| Chemical Name Polytetrafluoroethylene (P.T.F.E) 100% | Manufacture / Distributor GAC International Inc. |
| C.A.S. Number 9002-84-0 | Address 355 Knickerbocker Ave. Bohemia, NY USA 11716 |
| Grades or Minor Variant Identities Polytetrafluoroethylene. Solid powder lubricant. KT-40H, KT-60, KT-300M, KT-300H, KT-400M, KT0400H, KT-600M. EINECS: Listed. TSCA: Listed. Molecular formula: (-CF ₂ -CF ₂) _n | Information Telephone Number 1-631-419-1700 |
| Product Use (for Canada) Orthodontic bracket | Emergency Telephone Number 1-631-419-1700 |

2. Composition of Ingredients

| Hazardous Components | C.A.S. Number | Exposure Limits | % |
|----------------------|---------------|-----------------|---|
| None | 9002-84-0 | NA | 0 |

3. Hazard Identification

| Emergency Overview | | | | | |
|--|--|--|-----------------------------------|------------------------------------|-----------------|
| Not toxic. May be irritant if inhaled. Almost all decomposition products from P.T.F.E are toxic. | | | | | |
| Routes of Exposure | Signs and Symptoms | Single, Repeated, or Lifetime Exposure | Severity (Mild, Moderate, Severe) | Acute and Chronic Health Effect(s) | Target Organ(s) |
| Eye | In contact with eye: May cause physical irritation. | NA | NA | NA | NA |
| Skin | In contact with skin: Not toxic. | NA | NA | NA | NA |
| Inhalation | Inert powder but like any powder may irritant inhaled. UK occupational exposure standards for dusts are 10mg/m ³ (8 hours TWA) total inhalable dust and 5 mg/m ³ (8 hours TWA) as respirable dust. When thermally decomposed by heating above 280°C, or by smoking tobacco or cigarettes contaminated with polymer dust, may cause polymer fume fever. Symptoms are flu-like, with chills and fever, which may not occur until several hours after exposure and pass off within 36-48 hours, even in absence of treatment. | NA | NA | NA | NA |
| Ingestion | Not toxic | NA | NA | NA | NA |
| Other | NA | NA | NA | NA | NA |
| Medical Conditions Aggravated by Exposure NA | | | | | |
| Carcinogenicity (IARC, NTP) NA | | | | | |
| Potential Environmental Effects NA | | | | | |



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4. First Aid Measures

| Routes of Exposure | First Aid Instructions | Immediate Medical Attention | Delayed Effects |
|--|--|--|-----------------|
| Eye | Wash with water. | NA | NA |
| Skin | Wash skin with soap and water. | NA | NA |
| Inhalation | Move to fresh air, rest and keep warm. | Consult a physician if symptoms persist. | NA |
| Ingestion | Give water to drink. | NA | NA |
| Other | NA | NA | NA |
| Note to Physicians (Treatment, Testing, and Monitoring) NA | | | |

5. Fire and Explosion Data

| | | | |
|---|---|--|--|
| Flashpoint & Method: °C / °F Does not flash (open cup) | Flammable (Explosive) Limits in Air LEL: N/A UEL: N/A | Autoignition Temperature If heated in air in the absence of a flame, it will start to burn at about 575°C. | Other Autoflammability: N/A. |
| Flame Propagation or Burning Oxidizing properties: Non-oxidizing. | Properties Contributing to Fire Intensity NA | Flammability Classification Health- , Flammability- , Reactivity- NA | |
| Extinguishing Media All extinguishing agents suitable. (Water, carbon dioxide, foam, dry chemical). | | Extinguishing Media to Avoid NA | |
| Protection and Procedures for Firefighters All personnel engaged in fire fighting must have self-contained breathing apparatus not respirators. | | | |
| Unusual Fire and Explosion Hazards Highly toxic fumes may be emitted. (Hydrogen fluoride (HF), carbonyl fluoride, carbon monoxide, low molecular weight fluorocarbons). | | | |

6. Accidental Release Measures

| |
|---|
| Containment Techniques NA |
| Spill/Leak Clean-Up Procedures and Equipment Sweep up vacuum. |
| Evacuation Procedures NA |
| Special Instructions NA |
| Reporting Requirements NA |

7. Handling and Storage

| |
|---|
| Handling Practices and Warnings Contamination of smoking materials by PTFE must be avoided as this can lead to "Polymer fume fever". Ventilation: Because decomposition starts at temperatures above about 250°C all heated processing equipment must be vented to atmosphere outside the building. |
| Storage Practices and Warnings No special precautions, Avoid contamination. Keep containers closed. |



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8. Exposure Control/Personal Protection

| | | |
|---|--|---|
| Ventilation NA | | Other Engineering Controls Use general or local exhaust ventilation to meet the exposure requirement. |
| Routes of Entry: | Personal Protective Equipment (PPE) for Normal Use: | PPE for Emergencies: |
| Eye/Face | Goggles if necessary because of dust. | NA |
| Skin | Wear rubber or polyethylene gloves. | NA |
| Inhalation | Dust mask to avoid irritation in dusty situations. | NA |
| General Hygiene Considerations and Work Practices NA | | |
| Protective Measures During Repair and Maintenance of Contaminated Equipment Avoid contamination of cigarettes or tobacco with polymer dust. | | |
| Other Protective Measures and Equipment NA | | |

9. Physical and Chemical Characteristics

| | | |
|---|--|---|
| Appearance Powder | | Odor Odorless |
| Normal Physical State: <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Solid <input type="checkbox"/> _____ (Other) | | Boiling Point °C / °F N/A Melting Point 320°C / °F Freezing Point NA °C / °F |
| Specific Gravity or Density (H₂O=1) NA | Solubility in Water Does not soluble | pH N/A |
| Vapor Pressure (mm Hg @ 20°C) N/A | Vapor Density (AIR= 1) NA | Evaporation Rate (Butyl Acetate = 1) NA |
| Other Viscosity (20°C) N/A | | |

10. Stability and Reactivity Data

| | |
|---|--|
| Incompatibility (Materials to Avoid) Extremely inert. Reacts with molten alkali metals and finely divided magnesium and aluminum at temperatures above 425°C. | |
| Hazardous Products Produced During Decomposition Hydrogen fluoride (HF), Carbonyl fluoride, carbon monoxide, and low molecular weight fluorocarbons. | |
| Hazardous Polymerization? <input type="checkbox"/> May Occur <input checked="" type="checkbox"/> May Not Occur | Conditions to Avoid °C / °F NA |
| Stability? <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable | Conditions to Avoid Stable at temperatures up to 250°C |

11. Toxicological Information

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|--|
| Toxicity Data, Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic or Reproductive Effects, or Structure Activity Data Acute toxicity Oral LD50: N/D .Primary skin irritation: Not irritant. Primary eye irritation: Physical irritation. Genetic studies: N/D. Repeated dose oral toxicity: N/D. Carcinogenic classification: IARC GROUP3. |
|--|

12. Ecological Information

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|---|
| Toxicity, Environmental Fate, Physical/Chemical Data, or Other Data Supporting Environmental Hazard Statements Biodegradability: N/D. Bioaccumulation: N/D. Other information: BOD: N/A COD: N/A. |
|---|



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13. Disposal Considerations

Regulations

Dump in accordance with local regulations. With incineration, acidic gaseous product must be removed by alkaline scrubbing.

Properties (Physical/Chemical) Affecting Disposal

NA

14. Transport Information

Regulated for shipping?

Yes No

Proper Shipping Name

In-Ovation-C

Packing Group

Not assigned

Do changes in quantity, packaging, or shipment method change product classification?

Yes No

Hazard Class

None

Identification Number

UN number: Not assigned

Other

Road transportation: (ADR): Not classified. Rail transportation (RID/RMP): Not classified. Sea transportation (IMDG/IMO): Not classified. Air transportation (ICAO/IATA): Not classified.

15. Regulatory Information

Federal Regulations

EEC directive 67/548 and following amendments. **Classification type:** None. Labeling information Tradename: Polytetrafluoroethylene. Solid powder lubricant KT-40, KT-60, KT-300M, KT-300H, KT-400M, KT-400H,, KT-600M. **Classification:** Not required. **Hazard symbol:** Not required. **Risk phrases:** Not required. **Safety phrases:** Not required.

International Regulations

European regulation for protection of man and environment DPR 303/56. (General regulation for safety and hygiene in work places) not cited.

Other

NA

16. Other Information

Supplier Number: 4/100

Supplier Release: December 18, 2001

N/A = not applicable. NA = not available, N/E = not established. N/D = not determined.