

Issue date: 18-May-2016

Date prepared 18-May-2016

Version 1

1. Identification of the Substance/Preparation and of the Company/Undertaking

- (a) Product name: Polyimide adhesive tape
Product identifier P221
- (b) Other means of identification
Product Code P627-00039
- (c) Recommended Use For electric insulation; tabbing and holding lithium ion batteries; waver solder, solder reflow; High temperature resistant, dimension stability adhesive tape
- (d) Supplier Address Nitto, Inc.
 1990 Rutgers University Blvd. Lakewood, NJ08701, U.S.A.
 TEL.+1-732-901-7905 FAX.+1-732-901-9354
- Suppliers details (Plant) Nitto, Inc.
 1990 Rutgers University Blvd. Lakewood, NJ08701, U.S.A.
 TEL.+1-732-901-7905 FAX.+1-732-901-9354
- Emergency telephone number +1-732-901-7905 (Nitto, Inc.)

2. Hazards Identification

- (a) GHS - Classification Not applicable for article
- (b) Label elements Not Applicable
- Physical State: Solid
- Odor Slight

3. Composition/information on Ingredients

Product Classification ARTICLE

| <u>Chemical name</u> | <u>CAS No</u> | <u>Concentration or concentration ranges</u> |
|----------------------|---------------|--|
| Silicone adhesive | - | 50-60 |
| Polyimide | 25038-81-7 | 40-50 |

The exact percentage (concentration) of composition has been withheld as a trade secret

4. First aid measures

- (a) General information
- If inhaled Will not occur
- Eyes Call a physician immediately
- Skin Wash off immediately with soap and plenty of water
 In the case of skin irritation or allergic reactions see a physician
- Ingestion Get immediate medical advice/attention
- (b) Most important symptoms/effects, acute and delayed: No information available
- (c) Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves
- Note to physicians No information available

5. Fire-fighting measures

- (a) Fire extinguishing agent Dry chemical, CO2, water spray or regular foam

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|---|--|
| <u>Prohibited media</u> | No information available |
| (b) <u>Special exposure hazards in a fire</u> | No information available |
| <u>Hazardous combustion products</u> | No information available |
| <u>Explosion data</u> | No information available |
| <u>Sensitivity to Mechanical Impact</u> | No information available |
| <u>Sensitivity to Static Discharge</u> | This film is subject to generation of static during processing. Use precautions of static charge during processing and when removing plastic films used as protective packaging. |
| (c) <u>Special protective equipment and precautions for firefighters</u> | In the event of fire, wear self-contained breathing apparatus Use personal protective equipment as required |

6. Accidental release measures

| | |
|--|---|
| (a) <u>Personal Precautions:</u> | Avoid contact with eyes and skin |
| <u>Protective equipment and emergency procedures</u> | Protective gloves and safety glasses recommended |
| (b) <u>Environmental precautions:</u> | Collect spillage Prevent product from entering drains Keep out of waterways |
| (c) <u>Methods and material for containment and cleaning up</u> | Should not be released into the environment |

7. Handling and Storage

| | |
|---|---|
| (a) <u>Precautions for safe handling</u> | Protective gloves and safety glasses recommended |
| (b) <u>Storage Conditions</u> | Store at room temperature and normal humidity away from direct sunlight |

8. Exposure Controls/Personal Protection

| | |
|---|--|
| (a) <u>Control parameters other information:</u> | None under normal use conditions No information available |
| (b) <u>Appropriate engineering controls</u> | Ensure adequate ventilation, especially in confined areas |
| (c) <u>Personal protective equipment [PPE]</u> | |
| <u>Respiratory Protection:</u> | None under normal use conditions |
| <u>Hand Protection</u> | Wear non-permeable gloves |
| <u>Skin protection</u> | Wear protective gloves and protective clothing |

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

| | |
|--|--------------------------|
| (a) <u>Physical State:</u> | Solid |
| <u>paint</u> | amber |
| (b) (c) <u>Odor</u> | Slight |
| (d) <u>pH</u> | No data available |
| (e) <u>Melting point / Freezing point</u> | No information available |
| (f) <u>Boiling point / boiling range</u> | Not Applicable |
| <u>boiling point</u> | Not Applicable |
| (g) <u>Flash Point:</u> | No data available |
| (h) <u>Evaporation rate:</u> | No data available |
| (i) <u>Flammability (solid, gas)</u> | Non-flammable solid |
| (j) <u>Upper/lower flammability or explosive limits</u> | |
| <u>Upper</u> | Not Applicable |
| <u>Lower</u> | Not Applicable |
| (k) <u>vapor pressure</u> | Not Applicable |
| (l) <u>Vapor density:</u> | Not Applicable |
| (m) <u>Specific gravity</u> | No data available |
| (n) <u>Solubility</u> | Insoluble in water |
| (o) <u>Partition coefficient:</u> | No data available |
| (p) <u>Autoignition temperature:</u> | No data available |
| (q) <u>decomposition temperature</u> | No data available |
| (r) <u>Kinematic viscosity</u> | No data available |
| (s) <u>molecular weight</u> | No data available |

9.2. other information:**10. Stability and Reactivity**

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|---|--|
| (a) Reactivity: | Stable under normal conditions |
| (b) Chemical stability | Stable under normal conditions |
| (c) Possibility of Hazardous Reactions | No data available |
| (d) Conditions to avoid | No information available |
| (e) Incompatible materials: | No information available |
| (f) Hazardous decomposition products: | Thermal decomposition can lead to release of irritating and toxic gases and vapors Carbon dioxide (CO ₂) Carbon monoxide |

11. Toxicological Information

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|--|--|
| (a) Information on likely routes of exposure | |
| <u>Inhalation</u> | Not an expected route of exposure |
| <u>Ingestion</u> | Not an expected route of exposure |
| <u>Skin</u> | May cause skin irritation to sensitive individuals |
| <u>Eyes</u> | May cause eye irritation to sensitive individuals |
| (b) Most important symptoms/effects, acute and delayed: | No information available |
| (c) Delayed and immediate effects and also chronic effects from short- and long-term exposure | |
| <u>Acute Toxicity</u> | No information available |
| <u>Skin corrosion/irritation</u> | No information available |
| <u>Serious eye damage/eye irritation</u> | No information available |
| <u>Respiratory sensitization</u> | No information available |
| <u>Germ cell mutagenicity</u> | No data available on finished product |
| <u>Reproductive Toxicity</u> | No data available on finished product |
| <u>Specification target internal organs/systemic toxicity (single exposure)</u> | No data available on finished product |
| <u>Specification target internal organs/systemic toxicity (repeat exposure)</u> | No data available on finished product |
| <u>Aspiration hazard</u> | Not Applicable |
| (d) | |
| (e) <u>Carcinogenicity</u> | No data available on finished product |

12. Ecological Information

| | |
|---|---------------------------------------|
| (a) <u>Ecotoxicity</u> | No data available on finished product |
| (b) <u>Persistence and degradability</u> | No data available on finished product |
| (c) <u>Bioaccumulation</u> | No data available on finished product |
| (d) <u>Bioaccumulation</u> | No data available on finished product |
| (e) <u>Other adverse effects</u> | |
| <u>Ozone depletion potential (ODP):</u> | Stable under normal conditions |

13. Disposal Considerations**Waste treatment methods****Disposal of wastes**

Dispose of in accordance with federal, state and local regulations. The Customer is responsible for the proper disposal of any waste generated as a result of the use of the Product or of the Product itself, and is responsible for complying with all applicable laws, rules and regulations relating to the management, storage, treatment, shipment and disposal of such waste or Product ("Waste Management Practices"). "Product" includes anything sold by Nitto Denko Corporation and/or any affiliates or subsidiaries ("Company") to Customer. The Company is not responsible for any of the Customer's Waste Management Practices. As part of those practices, Customer must separate packaging from Product before disposal. Further, Customer should review and comply with this SDS prior to any such disposal.

Customer shall hold harmless the Company, its agents, contractors, successors and assigns from any and all liability, claims, loss, damage, death or injury, including reasonable attorneys fees and costs, arising out of or relating to Customer's Waste Management Practices

Contaminated packaging disposal considerations Dispose of in accordance with federal, state and local regulations
Should not be released into the environment

14. Transport Information

DOT(U.S. Department of Transportation) Not regulated
(HMTA)
UN/ID-Nr Not Applicable
UN Proper Shipping Name Not regulated
Transport hazard class Not Applicable
Packing group, if applicable Not Applicable
(e) Environmental hazards (Applicable/not applicable) Not Applicable
(f) Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code (Applicable · Not applicable) Not Applicable
Special precautions in connection with transport or conveyance Store in a cool area away from heat
TDG: Not regulated
MEX(Transport is specifically for Mexico) Not regulated
ICAO (air) Not regulated
IATA: Not regulated
IMDG: Not regulated
UN/ID-Nr Not Applicable
UN Proper Shipping Name Not regulated
Transport hazard class Not Applicable
Special precautions in connection with transport or conveyance Store in a cool area away from heat
RID (Regulations concerning the International Carriage of Dangerous Goods by Rail) Not regulated
ADR : (European Agreement concerning International Carriage of Dangerous Goods by Road) Not regulated
ADN Technical Name Not regulated

15. Regulatory information

US Federal Regulations
SARA 313 Not Applicable

US State Regulations
California Proposition 65
This product will not contain compounds in particulate (respirable) form under normal conditions

U.S. State Right-to-Know Regulations Not Applicable

Global Inventories Not Applicable

REACH 7 Article 33 Article SVHC notification (> 0.1wt%) None based on the current list of SVHC's as of the date of this SDS.

16. Other information

| | | | | |
|-------------|-------------------------|------------------------|---------------------------|---|
| <u>NFPA</u> | <u>Health Hazards</u> 0 | <u>Flammability:</u> 0 | <u>Instability:</u> 0 | <u>Physical and Chemical Properties</u> - |
| <u>HMIS</u> | <u>Health Hazards</u> 0 | <u>Flammability:</u> 0 | <u>Physical Hazards</u> 0 | <u>Personal protective equipment</u> X |

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|----------------------------------|--|
| <u>Issue date:</u> | 18-May-2016 |
| <u>Date prepared</u> | 18-May-2016 |
| <u>Version</u> | 1 |
| <u>Source Information</u> | Raw material SDS LOLI(Chem ADVISOR) GHS classification data |

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End of Material Safety Data Sheet