

Safety Data Sheet

SDS No. 220-99 Date of Preparation: Jan. 12, 1999

Revised May 13, 2015

1. PRODUCT IDENTIFICATION

| Product Name: | Ad-Tech 220 |
|---------------------------------------|--|
| Product Description: | Hot Melt Adhesive |
| Suggested Purpose and Limitations: | Bonding, adhesion |
| Manufacturer, Importer, Supplier: | Adhesive Technologies, Inc. 3 Merrill Ind. Dr. Hampton, NH 03842 Taipei Hsien, Taiwan |
| Phone: | (603) 926-1616 |
| Fax: | (603) 926-1780 |

2. HAZARD IDENTIFICATION

Toxicity Data: Conforms to ASTM D-4236 as non-toxic. Product is non-hazardous as defined in 29 CFR 1910.1200
GHS Label: None
Label Content: Symbol: None
Warnings: None
Hazard Warning Message: None
Hazard Prevention Measure: None
Other Hazards: Touching adhesive directly while melting by heat will cause contact burns.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

| Substance Name | CAS No. | Concentration (%) |
|--------------------------------------|------------|----------------------|
| Ethylene Vinyl Acetate Copolymers | 24937-78-8 | 70-90 % |
| Rosin Ester | 8050-26-8 | 10-30 % |
| Anti-Oxidant | 6683-19-8 | 0.02-2 % |

4. FIRST-AID MEASURES

| Potential Health Effects | |
|--|--|
| Eyes | Vapors and fumes released at or above application temperature may cause irritation. |
| Inhalation | Vapors and fumes released at or above application temperature may cause irritation of the nose, throat and respiratory tract. |
| Skin | Hot molten adhesive will burn and blister skin tissue. |
| Ingestion | Ingestion is not a likely route of exposure. Small amounts are not anticipated to be harmful. |
| Carcinogenicity | IARC, NTP, and OSHA do not list Ad-Tech 220 as a carcinogen. |
| Medical Conditions Aggravated by Long- Term Exposure | No known effects on other illnesses. |
| Chronic Effects | No anticipated chronic effects. |
| | Emergency and First Aid Procedures |
| Inhalation: | If irritation occurs, remove to fresh air. Seek medical attention if symptoms persist. |
| Eye Contact: | Hot molten adhesive will adhere to and burn eye and surrounding skin upon contact. Immediately flush affected area with cold water to cool adhesive. Do not pull solidified adhesive from eye. Seek medical attention. |
| Skin Contact: | Hot molten adhesive will adhere to and burn skin upon contact. Immediately immerse affected area in ice water. Do not pull solidified adhesive from skin. Seek medical attention. |
| Ingestion: | If ingested, seek medical attention. |
| Note to Physicians: | This adhesive was determined by a toxicologist to be non-toxic. |
| Special Precautions / Procedures: | None |

5. FIRE FIGHTING MEASURES

| Flash Point: | > 450° F (232° C) |
|---------------------|-------------------|
| | |
| Flash Point Method: | CC. |

| Autoignition Temperature: | >800° F (>427° C) | NFPA 1 1 n/a |
|--|---|-----------------------|
| Extinguishing Media: | Carbon Dioxide, Foam | |
| Unusual Fire or Explosion Hazards: | None | |
| Special Fire-Fighting Instructions: | None | |
| Fire-Fighting Equipment: | Fire may produce toxic thermal decomposition products, wear a self- contained breathing apparatus (SCBA) with a full face-piece operated in pressure-demand or positive-pressure mode, and protective clothing. | |
| Explosion Bottom Line: | Upper limit - not applicable. Lower limit – not applicable. | |

6. ACCIDENTAL RELEASE MEASURES

| Individual Precautions: | Avoid getting burns by avoiding contact with the hot melting materials. |
|-------------------------------|---|
| Environmental Precautions: | In accordance with international conventions or local regulations. Incineration at the government-approved incineration facilities. |
| Cleanup: | Normal housekeeping and clean up (no special procedures). |
| Disposal: | Follow applicable Federal, state, and local regulations for proper disposal procedures. |

7. HANDLING AND STORAGE

| Handling Precautions: | Avoid contacting the hot material with the skin. |
|-----------------------|--|
| Storage Requirements: | Store in cool dark area. |

8. EXPOSURE CONTROLS – PERSONAL PROTECTION

| Engineering Control: | Local ventilation recommended. | HMIS |
|--------------------------------|---|------------------------------------|
| Control Parameters: | Time weighted average for 8 hour shift(TWA) – No data Short Term Exposure Limit (STEL) – No data Ceiling – No data Biological Exposure Index (BEI) – No data | HMIS H 0 F 0 R 0 PPE B |
| Respiratory Protection: | Though the smoke and odor generated by hot melting glue is not toxic, each person has different sensitivity tolerances, it is recommended to wear a mask. | |

| Personal Protective Equipment: | Hand protection – heat insulated gloves Eye protection – safety goggles Skin protection – wear long-sleeved or protective clothing. |
|-----------------------------------|---|
| Sanitary Measures: | No specific requirements. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| Physical State: | Solid |
|--------------------------|---------------------------|
| Olfactory Threshold: | Not applicable |
| pH: | 7.8 |
| Flash Point: | Over 450°F / 232°C |
| Test Method: | Closed cup |
| Auto-ignition | |
| Temperature: | >800°F/>427°C |
| Specific Gravity: | .98 (H2O=1 @ 4°C) |
| Evaporation Rate: | Not applicable |
| Odor: | Resin |
| Melting Point: | 185°F (85°C) |
| Boiling Point: | Not applicable |
| Flammability: | Not applicable |
| Decomposition | |
| Temperature: | Not applicable |
| Explosion Limit: | Not applicable |
| Water Solubility: | Nil |
| Octanol / Water | |
| Partition Coefficient | Not applicable |
| (Low Kow): | |
| Color: | Translucent / Clear |
| Viscosity: | 9,370 -15,630 cps @ 350°F |

10. STABILITY AND REACTIVITY

| Stability: | Stable |
|--|--|
| Polymerization: | Hazardous polymerization will not occur. |
| Incompatibilities – Materials to avoid: | Strong oxidizing agents. |
| Hazardous Decomposition Products: | Thermal oxidative decomposition of Ad-Tech 220 can produce carbon monoxide and /or carbon dioxide. |

11. TOXICOLOGICAL INFORMATION

| Exposure Approach: | None |
|--------------------|------|
| Symptoms: | None |

| Acute Toxicity- Inhalation: | Inhalation of dust and smoke will stimulate the respiratory system. |
|---|---|
| Skin: | None |
| Eyes: | None |
| LD50(testing animal's absorbtion approach): | 500mg/24hr(rabbit, skin) – No Data 20mg/24hr(rabbit, eyes) – No Data |
| Chronic Toxicity or Long-Term Toxicity: | None |

12. ECOLOGICAL INFORMATION

| Ecological Toxicity: | LC50 (fish)- No Data | |
|---------------------------|--|--|
| | EC50 (aquatic invertebrates)- No Data | |
| Sustainable and De-toxic: | Difficult to naturally degrade, but can be recycled by appropriate ways. | |
| Ecologic Accumulation: | No Data | |
| Liquidity in Soil: | No Data | |
| Other Effects: | Improper burning may generate hazardous gas. | |

13. DISPOSAL CONSIDERATIONS

| | 1. Refer to relevant regulations. |
|--------------------------|---|
| Disposal Considerations: | 2. Store waste according to storage conditions. |
| | 3. Able to apply specific incineration or sanitary landfilling. |

14. TRANSPORT INFORMATION

| The United Nations | None |
|-----------------------------|---------------|
| Number: | |
| The United Nations | None |
| Shipping Name: | |
| D.O.T. Hazard Class: | None |
| Package Category: | None |
| Maritime Pollutants: | No |
| International Transport | |
| Regulation: | Not Regulated |
| Domestic Transport | |
| Regulation: | Not Regulated |
| Special Transport Way | |
| and Note: | Not Regulated |

15. REGULATORY INFORMATION

| EPA Regulations: | |
|-----------------------------|-----------------|
| RCRA Hazardous Waste | Not applicable. |

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| Neuraham | |
|--------------------------|---|
| Number: | |
| RCRA Hazardous Waste | |
| Classification: | Not applicable. |
| | |
| CERCLA Hazardous | Unlisted, specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. |
| Substance (40 CFR | 307(a), CAA, Sec. 112 |
| | 507(a), CAA, Sec. 112 |
| 302.4): | |
| CERCLA Reportable | |
| Quantity (RQ): | Not applicable. |
| | |
| SARA 311/312 Codes: | Not applicable. |
| SARA Toxic Chemical | |
| (40 CFR 372.65): | Not listed |
| SARA EHS (Extremely | |
| · · · | N (1 11 1 1 |
| Hazardous Substance) | Not applicable, non-hazardous. |
| (40 CFR 355): | |
| | |
| OSHA Regulations: | |
| Air Contaminant (29 | |
| CFR 1910.1000, Table Z- | Not applicable. |
| - | - · · · · · · r · · · · · · · · · · · · · · · · · · · |
| 1, Z-1-A): | |
| OSHA Specifically | |
| Regulated Substance | Not applicable. |
| (29CFR 1910): | |
| | |
| State Regulations: | None |
| State Regulations: | |

16. OTHER INFORMATION

| Prepared Company: | Adhesive Technologies, Inc. 3 Merrill Industrial Drive Hampton, NH 03842 603-926-1616 www.adhesivetech.com |
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| Prepared By: | Dennis Fitzmeyer |