

Material Safety Data Sheet

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

Product Name MORESCO-MELT TN-615Y
Manufacturer MORESCO Corporation
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Hot-Melt Manufacturing Department Technical Section
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Recommended Use and Restrictions on Use Hot-Melt Adhesive

2. Hazard Identification

GHS Classification:

Physical Hazards: Not applicable
Health Hazards: Not applicable
Environmental Hazards: Hazardous to Aquatic Environment Not applicable

Label Elements:

Pictograms/Symbols None
Signal Ward None
Hazard Statements None
Precautionary Statements [Prevention]
None
[Response]
None
[Storage]
None
[Disposal]
None

When preventive mention mentioned above is not written, take the following information into account about the prevention / response / safekeeping / disposal

3. Composition/Information on Ingredients

Distinction between Substance and Mixture : Mixture

Chemical Name/Generic Name: Synthetic Rubber-Based Hot-Melt Adhesive

Chemical Formula Not identified

Ingredient and Concentration Synthetic Rubber, Tackifier, Additives 65~80%
Mineral oil 20~35%

4. First-Aid Measures

Inhalation: In case of inhale of the steam which was heated excessively and if feeling abnormality in a throat, remove person to fresh air and comfortable for breathing. Get medical advice/attention.

Skin Contact: If molten product is on skin, cool off with water immediately and get medical advice/attention.

Eye Contact: If molten product is in eye, cool off with water immediately and get medical advice/attention.

Ingestion: Immediately get medical advice/attention.

Expected Acute and Delayed Symptoms, and Most Important Symptoms/ Effects: If swallowed, may suffer from diarrhea and vomiting. May cause inflammation if in eyes. May cause inflammation if on skin. May feel unwell if mist is inhaled.

5. Fire-Fighting Measures

Suitable Extinguishing Media Use water spray, dry chemical powder, carbon dioxide, dry sand, foam.

Unsuitable Extinguishing Media Jet water

Specific Hazards None

Specific Fire-Fighting Measures Shut off the fire source.
Use water spray, dry chemical powder, carbon dioxide, dry sand, foam.
Heated water or a molten product may be scattered when doing water dispersion to a molten product in the case of a large-scale fire.
In this case it is effective to intercept the air with foam extinguishers.
Cool the surrounding facilities with water spray.
Prohibit entrance except the person concerned around the fire scene.
After extinguishing a fire no admittance is allowed except people involved by stretching rope and others until the inside of the product cools off.

Special Protective Actions for Fire-Fighting Wearing protective glasses, protective clothing, and if necessary, respiratory protective equipment, start to fight fire on the windward

side.

6. Accidental Release Measures

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| Personal Precautions, Protective Equipment and Emergency Procedures | If skin or eye contact is possible, wear protective equipment. If mist is produced, wear respiratory protective equipment to avoid inhalation. |
| Environmental Precautions | Take up as much as possible to avoid soil contamination and water pollution. Avoid release to the environment. |
| Collection/Neutralization | When molted product leaks, remove it after cooling off. If collecting molten product, wear protective equipment such as protection glasses, protection gloves, long sleeve work clothes and so on. |
| Methods and Materials for Containment | Remove a nearby firing source and set up fire extinguishing machine parts and prevent leakage by enclosing with sand or sandbag. |
| Prevention of Secondary Hazards | Remove all the ignition sources immediately. Report to the related organs for help. |

7. Handling and Storage

Handling:

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| Technical Measures | May burn oneself if molten product is in eye. Wear protective equipment such as protection glasses when handle it. May burn oneself if molten product is on skin. Wear protective equipment such as protection gloves, long sleeve work clothes and so on when handle it. May feel unwell if mist is inhaled. Wear respiratory protective equipment to avoid inhalation when handle it. Do not use other than an apparatus for exclusive use. Wear protective equipment such as protection glasses, protection gloves, long sleeve work clothes and so on when handle it. Keep away from heat, sparks, open flames, hot surface and static electricity. Do not emit steam carelessly. Be careful so that water or contaminant does not enter. For use only for adhesive. |
| Local Exhaust Ventilation/ Full Ventilation System | Refer to '8. Exposure Controls/Personal Protection'. |
| Avoiding Contact | Strong oxidizer |

Precautions for Safe Handling. Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not press an empty container. It may explode under pressure.
Do not drink.
Keep out of reach of children.

Storage:

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| Technical Measures | Keep away from heat, sparks, open flames, hot surface and static electricity. |
| Incompatible Materials | Strong oxidizer |
| Conditions for Safe Storage | Protect from sunlight. Store in a well-ventilated and cool-dark place. |
| Materials for Containers/Packaging | When replacing the container, use a box, a film, the paper that made mold release processing. Otherwise it may not come off. |

8. Exposure Controls/Personal Protection

Permissible Concentration (Exposure Limit, a biological exposure index)

Japan Society for Occupational Health (2010): 3mg/m³ (mineral oil mist) ¹⁾
ACGIH (2010): TWA 5mg/ m³ (mineral oil mist) ²⁾

Standards for Allowable Density of Hazardous Substances in Labor Operation Air: Not established

Engineering Controls: Desirable to use a hot melt applicator that have a direct vent type.
When mist and vapors are produced, seal off sources or provide local exhaust ventilation.

Personal Protective Equipment

Respiratory Protection: If necessary, wear appropriate respiratory protection.
Hand Protection: If necessary, wear heat-resistant protective gloves.
Eye Protection: If necessary, wear protection glasses side shields.
Skin and Body Protection: If necessary, wear long sleeve work clothes and work shoes.
Hygienic Precautions: Wash hands thoroughly after handling.
Regularly inspect protective equipment according to the inspection table of protective equipment.
Do not eat, drink or smoke when using this product.

9. Physical and Chemical Properties

Physical State:

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| Appearance | Solid |
| Color | White |
| Odor | Slight resin odor |
| pH | Not applicable |

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| Melting/Freezing Point | Not applicable |
| Boiling Point | Not applicable |
| Flash Point | 210 (Min) |
| Explosive Range (Explosive Limits) | No data available |
| Vapor Pressure | No data available |
| Vapor Density (air=1) | No data available |
| Specific Gravity (Density) | 0.98g/cm ³ (15) |
| Solubility | Insoluble in water |
| Partition Coefficient: n-octanol/water | No data available |
| Auto-ignition Temperature | No data available |
| Softening point | 88 |
| Volatility | None (at room temperatures) |

10. Stability and Reactivity

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| Stability | Stable under normal conditions. |
| Possibility of Hazardous Reactions | No data available (Hazardous reactions will not occur under normal use). |
| Conditions to Avoid | No data available (Hazardous reactions will not occur under normal use). |
| Incompatible Materials | Strong oxidizer |
| Hazardous Decomposition Products | None |

11. Toxicological Information

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| Acute Toxicity: | |
| Oral | No information classified into Acute toxicity (oral) as a mixture. |
| Dermal | No information classified into Acute toxicity (Dermal) as a mixture. |
| Inhalation | No information classified into Acute toxicity (Inhalation) as a mixture. |
| Skin Corrosion/Irritation | No information classified into Skin Corrosion/Irritation as a mixture. |
| Serious Eye Damage/Eye Irritation | No information classified into Serious Eye Damage/Eye Irritation as a mixture. |
| Respiratory or Skin Sensitization | No information classified into Respiratory or Skin Sensitization as a mixture. |
| Germ Cell Mutagenicity | No information classified into Germ Cell Mutagenicity as a mixture. |
| Carcinogenicity | No information classified into Carcinogenicity as a mixture. |
| Reproductive Toxicity | No information classified into Reproductive Toxicity as a mixture. |
| STOT/Systemic Toxicity - Single Exposure | No information classified into STOT/Systemic Toxicity-Single Exposure as a mixture. |
| STOT/Systemic Toxicity - | No information classified into STOT/Systemic Toxicity- Repeated |

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| Repeated Exposure Aspiration Hazard | Exposure as a mixture. Aspiration Hazard is classified in Classification Not Possible as a mixture. |
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12. Ecological Information

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| Ecotoxicity | No information classified into Aquatic Toxicity as a mixture. |
| Persistence and Degradability | No information available |
| Bioaccumulative Potential | No information available |
| Mobility in Soil | No information available |
| Other Adverse Effects | No information available |
| Environmental Criteria | No information available |

13. Disposal Considerations

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| Waste Residues | Dispose the waste according to national and local regulations. Do not dump. |
| Contaminated Containers and Packaging | Contaminated or empty container/packaging are to be disposed according to national and local regulations. |

14. Transport Information

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| International Regulation | Not applicable |
| UN Classification | Not applicable |
| Special Precautions: | Load the containers in a manner that they are certain not to result in direct sunlight exposure, damage, corrosion, leak, while being transported. Load the containers in manner that they are not to fall apart while being transport. Do not place heavy load on top of the container. |

15. Regulatory Information

No Information

16. Other Information

References: 1) Recommendation of Occupational Exposure Limits by Japan Society for Occupational Health
2) Thresholds limit values for chemical substances and physical agents and biological exposure indices. ACGIH

1. As evaluations on hazards are not necessary satisfactory, special attention should be paid for use.
2. This MSDS, summarizing matters to be attended to, is required for proper use of the product and is intended for normal use.
3. Referring to this MSDS, properly use and handle this product on the user's own responsibility.

4. The contents of this MSDS are based on information available as of today and our knowledge. The information, data, and evaluations herein are not guaranteed, and in addition, may be revised due to revision of laws or knowledge newly obtained.