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MATERIAL SAFETY DATA SHEET

Issue No: 2

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PRODUCT IDENTIFICATION

THIS MSDS IS FURNISHED FOR A GROUP OF PRODUCTS WHICH HAVE SIMILAR PROPERTIES DURING NORMAL CONDITIONS OF USE, BUT WHICH MAY EMIT DISSIMILAR THERMAL DEGRADATION BYPRODUCTS IF OVERHEATED. FOR MORE SPECIFIC INFORMATION, PLEASE CALL (650) 361-4907.

Product Name: Hot Melt Adhesives/Mastics

Chemical Name: Not applicable, mixture

CAS #: See ingredients section below.

DOT Proper Shipping Name: Not regulated

DOT Identification No: Not regulated

DOT Hazard Classification: Not regulated

TSCA Inventory Status: All ingredients are listed

Manufacturer: Raychem Corporation
300 Constitution Drive
Menlo Park, CA 94025

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE or ACCIDENT

Call CHEMTREC - Day or Night - 1-800-424-9300 Toll free in the continental U.S., Hawaii, Puerto Rico, Canada, Alaska or Virgin Islands. For calls originating elsewhere: (703) 527-3887 (collect calls accepted)

For non-emergency health and safety information, call: (650) 361-4907

HAZARDOUS INGREDIENTS

These hot melt adhesives and mastics are not hazardous during proper installation, but may emit hazardous thermal decomposition and combustion byproducts if overheated to degradation. See "Thermal Degradation and Combustion Byproduct" section of this MSDS for more specific information. Base polymer materials include olefin copolymers or polyamides.

PRODUCT IDENTIFICATION

Hot melt adhesives and mastics are used as sealants, strain relief, and void fillers for heat-shrinkable polymeric and polyolefin products. Typical uses for these products include primary electrical insulation, EMI/RFI shielding, cable jacketing and repair, strain relief, component encapsulation, waterproofing, packaging, cable/pipe identification, corrosion protection, environmental/mechanical protection, and cable joining, splicing, and termination in commercial, electrical power generation and distribution, telecommunication, pipeline distribution and military/aerospace electronic applications.

PHYSICAL PROPERTIES

Appearance and Odor: Off-white, amber, gray, black or red solids with little or no odor.

Boiling Point: Not applicable

Vapor Pressure(mm Hg @ 20°C): Not applicable

Melting Point: See installation guide

Evaporation Rate: Not applicable

Volatility: Not applicable

Vapor Density: Not applicable

Specific Gravity: 0.93 - 1.47

Solubility in Water: Not applicable

Flash Point (°F)/Method:

Not applicable

Flammable Limits in Air (volume %): Lower Not applicable

Upper Not applicable

HEALTH HAZARD INFORMATION

Exposure Limits: There are no established exposure limits for polymer mixtures.

Health Effects/Symptoms of Exposure:**Acute (Short-Term Exposure):**

Eye Contact: Contact with molten material may cause thermal burns.

Skin Contact: This product is not expected to be a skin irritant. Contact with the molten material may cause thermal burns. No harmful effects are expected from skin absorption of this product.

Ingestion (Swallowing): Ingestion of this product is highly unlikely. There is insufficient information available on this material to predict the effects from ingestion.

Inhalation (Breathing): In common with most organic materials, thermal degradation and combustion byproducts may be toxic and should not be inhaled. (See Comments below and the Thermal Degradation and Combustion Byproducts Section for more specific information.)

Chronic (Long-Term Exposure):

None of the ingredients to which users may be exposed and which are present at equal to or greater than 0.1% of the product, are listed by OSHA, NTP, or IARC as suspect carcinogens.

Comments: Overheating the product to charring or burning may produce vapors that may cause eye, skin, nose and throat irritation. Persons with pre-existing eye, skin, or respiratory disorders (e.g., asthma conditions) may be more susceptible to the effects of these vapors.

STORAGE, HANDLING, AND PREVENTIVE MEASURES

Stability at room temperature: This product is stable under normal conditions.

Conditions to Avoid: Avoid overheating of product and open flame.

Incompatibilities (Materials to Avoid): Strong oxidizers, peroxides, acids and reducing agents.

Hazardous Polymerization: Will not occur. No known polymerization conditions to avoid.

Thermal Degradation and Combustion Byproducts: In common with most organic materials, degradation and combustion byproducts may be toxic and should not be inhaled. Thermal degradation is not significant at temperatures achieved during proper installation, as directed by product installation guides. At temperatures higher than those recommended for proper installation, most significantly if the product burns, the thermal degradation and combustion byproducts may include, but are not limited to, carbon monoxide, carbon dioxide, organic acids, aldehydes and alcohols, oxides of nitrogen, sulfur, and silicon, acetic acid, tetrahydrofuran, acrolein, vinyl acetate, and aromatic and aliphatic hydrocarbons.

Handling: Avoid any vapors given off if the product is heated to decomposition, as shown by a darkening and browning. Avoid contact with molten material. Heat-resistant gloves are required if hot products are handled after installation. Do not consume food, beverages or tobacco in the immediate work area. Wash hands before eating, drinking or smoking.

Storage: Store in a cool, dry well-ventilated area.

Other Precautions: Avoid heating products beyond temperatures required for normal installation. See installation instructions for proper installation procedures. If product chars or burns, immediately stop heating. Avoid inhaling any fumes which may be given off under such circumstances. Allow any vapors to disperse and ventilate before continuing work in the area.

Ventilation: In accordance with good industrial hygiene practice, ensure adequate ventilation during installation.

Respiratory Protection: If installation occurs in a confined, unventilated area, NIOSH/MSHA-approved air-supplied respirators are recommended.

Protective Clothing: OSHA, ANSI, or NIOSH guidelines should be followed. If there is a danger of molten material contacting the skin or eyes, use eye/face protection and heat resistant gloves. If it is necessary to handle grossly overheated or fire-damaged products, wear natural rubber gloves to prevent possible contact with potentially corrosive inorganic acid residues.

Transportation: These products are non-hazardous under Department of Transportation Regulations 49, CFR Section 171.8, IATA, IMO, and AFR 71-4. Because there are no applicable shipping regulations for these products, labels are not required on the outside shipping container for these products and all products may be shipped through the U.S. Postal Services.

Disposal: This material is a non-hazardous waste in accordance with Federal U.S. EPA regulations. Classification according to all local and state hazardous waste regulations is required before disposal.

Installation: Follow appropriate Raychem installation instructions and application guides to ensure that installation is performed properly. Ensure that any local requirements/legislation concerning the use of hand-held electrical equipment are observed. When using IR (infrared) heating devices, observe specific instructions. Do not touch hot surfaces on installation equipment.

EMERGENCY AND FIRST AID PROCEDURES

Eyes: If eye irritation occurs, hold eyelids apart and flush affected area(s) with clean water. Seek medical attention.

Skin: First aid is normally not required. After handling product, it is good work practice to wash your hands. If molten material contacts skin, cool area immediately in water. DO NOT attempt to remove material from the skin. Treat as a burn, and seek medical attention.

Ingestion: Not a normal route of exposure. However, if swallowed and symptoms develop, seek medical attention.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim to fresh air. If symptoms persist, seek medical attention. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention. If victim is not breathing, immediately begin artificial respiration. Keep victim warm and quiet; seek immediate medical attention.

Steps to be Taken in Case of Release or Spill: Wear appropriate personal protection when responding then sweep up and collect in a suitable container for disposal or reuse.

Unusual Fire and Explosion Hazards: Toxic fumes may be given off in a fire. See also sections on Thermal Degradation and Combustion Byproducts and Other Precautions.

Special Fire Fighting Procedures: Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive demand mode when fighting fires.

Extinguishing Media: carbon dioxide X water X dry chemical X foam X other ____

Selection of extinguishing media should be based upon the size of the fire, the firefighting training/experience of the individual attempting to extinguish or control the fire, and the packaging materials exposed to the fire.

This information is supplied in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the California Safe Drinking Water and Toxics Enforcement Act of 1986 (California Health & Safety Code 25249.6). Users are advised that they may have additional disclosure obligations under other federal, state, and local laws. Users are advised to ensure that this information is brought to the attention of the employees, agents, or contractors handling this product. Distributors of this product are advised to forward this document, or the information contained herein, to their purchaser. Raychem makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. Raychem's obligations shall be only as set forth in Raychem's standard terms and conditions of sale for this product and in no case will Raychem be liable for any incidental, indirect, or consequential damages arising out of the sale, resale, use or misuse of the product. Users of Raychem products should make their own evaluation to determine the suitability of each such product for the specific application and to establish safe handling and installation procedures.

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