RESTORE POWDER SAFETY DATA SHEET

I. Identification

A. Product Name: Restore Powder
B. Chemical Name: N/A Mixture
C. Case Number: N/A Mixture
D. Approved Application: Florescent Restorer

II. Occupational Control Procedures

A. Protective Equipment (Type)
   1. Eyes: Chemical type goggles. No contact lenses.
   2. Skin: Use neoprene or other impermeable gloves where skin contact is likely.
   3. Inhalation: Must wear MSHA/NIOSH approved respirator with acid gas cartridge and dust prefiller for concentrations up to 10 times the recommended exposure limit. For higher concentrations, as well as for firefighting and other emergencies, use positive pressure, self-contained breathing apparatus.
   4. Ventilation: Use local exhaust to control dust within the recommended exposure limits.
   5. Special Equipment: Work clothing to cover exposed areas. Safety shower and eyewash facilities.

III. Emergency and First Aid Procedures

A. Eyes: Flush thoroughly with water for 15 minutes. Obtain medical assistance.
B. Skin: Remove contaminated clothing and wash affected area thoroughly with soap and water until clean. Wash clothing thoroughly before reuse.
C. Inhalation: Remove to fresh air. If breathing is difficult administer oxygen. If breathing has stopped, administer cardiopulmonary resuscitation. Seek medical assistance.
D. Swallowing: Remove to fresh air. If appreciable quantities are ingested, seek medical assistance.

IV. Physiological Effects of Exposure

A. Inhalation: May cause respiratory irritation and bronchospasms. Symptoms may include coughing and breathing difficulty. May cause severe respiratory distress in asthmatics. Asthmatics or persons with other respiratory disorders should be excluded from exposure.
B. Skin Contact: May cause slight irritation.
C. Skin Absorption: Practically non-toxic.
D. Swallowing: May cause mouth, throat, esophagus irritation or burns. May cause gastrointestinal disturbances. May cause sensitization in individuals allergic to sulfites.
E. Eye Contact: May cause moderate to severe eye irritation.
F. Other Health Data: Sulfur dioxide decomposition product may cause pulmonary irritation, bronchospasms, respiratory failure due to pulmonary edima.
G. Media Conditions Aggravated by Overexposure: Asthma, respiratory disease.

V. Fire and Explosion Data

A. Flash Point: N/A
B. Lower Explosion Limit (%): N/A
C. Upper Explosion Limit (%): N/A
D. Extinguishing Media: Water in large quantities
F. Special Fire Fighting Procedures:
G. Unusual Fire and Explosive Hazards: Thermal decomposition may produce toxic fumes of carbon and sulfur.
H. Special Firefighting Procedures: If a decomposition is suspected in a sealed container (hot to the touch or pressure deformed), vent container by the safest mans possible. Move vented container to a safe, open area. Empty, flood material with water; contain all water. Sand or sodium carbonate (dry chemical) will not stop decomposition reactions. Burning or smoking material must be cooled with large quantities of water to stop the decomposition reactions.
I. Unusual Fire and Explosion Hazards: Contact with small amounts of water or moist air will cause a chemical decomposition reaction. Heat generated is sufficient to ignite combustible material. If fire code requires sprinklered storage, protect by covering with plastic. Promptly remove and inspect containers which are accidentally wetted.

VI. Reactivity Data

A. Stability: Stable
B. Incompatibility: Oxidizing agents, acidic materials, moisture
C. Hazardous Combustion or Decomposition Products: A major decomposition product is sulfur dioxide; however, during catastrophic decomposition other sulfur containing decomposition products such as hydrogen sulfide and mercaptan may be present.
D. Hazardous Polymerization: N/A
E. Other Reactivity Information: Exposure to moisture either from humid air or from small amounts of water can result in spontaneous chemical reactions which may generate sufficient heat to initiate thermal decomposition. Heat above 50 degrees Centigrade can also initiate thermal decomposition.

Moisture catalyzes the exothermic decomposition of sodium hydrosulfite to form a mixture of sulfur compounds, including sodium sulfate and sulfur. While decomposition reactions may occur in the absence of air, the presence of oxygen significantly increases the decomposition reaction rate of moist hydrosulfite, generating heat considerably faster than it can be dissipated. The heat generated by this reaction has the potential to raise its temperature of the material above the thermal decomposition point (130 degrees Centigrade). This results in rapid, exothermic decomposition to sulfur dioxide, sodium bisulfite, sodium sulfite and sodium thiosulfate. In the presence of air additional reactions will take place: elemental sulfur which is produced by the decomposition may ignite, resulting in a sulfur fire which generates additional quantities of sulfur dioxide.

Sodium hydrosulfite decomposition reactions and fires can be controlled only by reducing the temperature to below the point necessary to maintain decomposition. WATER IN LARGE QUANTITY IS THE ONLY EFFECTIVE EXTINGUISHING AGENT FOR SODIUM HYDROSULFITE DECOMPOSITION REACTIONS AND FIRES.

VII. Physical and Chemical Data

A. Physical State: Solid
B. Melting Point: Decomposes at temperature below melting point
C. Decomposes: 158-266 Fahrenheit
D. Appearance: White Powder
E. Density: 0.8 Loose; 1.02 Packed
F. Solubility: Soluble
G. Percent Volatile by Volume: Nil
H. Odor: Slight Sulfur Dioxide Odor

VIII. Special Precautions

A. Handling and Storing: Keep stored material dry and at temperatures below 50 degrees Centigrade. DO NOT store containers open to the air. Keep the container tightly covered when material is not in use. Separate containers from oxidizers, acids and flammable materials. Avoid sources of heat or flame. If stored in fire sprinkler protected area, cover container with plastic sheet to prevent wetting if sprinklers activate.
B. Other: If the container wall feels hot or if the container begins smoking, remove the container to an open area, remove material, flood with water, contain run-off. Remove damaged or punctured containers from storage, secure any leaks and use product immediately or secure leaks, observe container for signs of product decomposition (container warm to the touch).

IX. Environmental Protection

A. Waste Disposal Method: Dispose of solid material in a hazardous waste treatment facility in compliance with local, state and federal regulations. Dispose of water solution of the material in industrial waste water treatment system or otherwise as allowed by local, state or federal regulations.
Hazardous Waste 40CFR261: Yes
Hazardous Waste Number: D003
B. Spills and Leakage: Contain to minimize contaminated area. Recover as a dry material. Discarded unreacted material is a hazardous waste because of reactivity with moisture. Keep out of ground and surface waters.
C. Container Disposal:
   1. Drums: Remove liner, turn liner inside out, shake, discard in industrial non-hazardous trash. Triple rinse drum with water, crush and discard in industrial non-hazardous trash or to a scrap metal dealer. Discharge rinsate to an industrial waste water treatment system.
   2. Bins: Empty as completely as possible. DO NOT RINSE. Securely close slide gate and top opening cover.
D. Environmental Toxicity Data: No specific information available. Causes rapid oxygen depletion of surface water.

X. Composition

Hazardous Components: Sodium Hydrosulfite, Sodium Metabisulfite, Sodium Thiosulfate, Sodium Formate

XI. Preparation Data

A. Prepared by: Safety Department
B. Phone Number: (214) 442-0046
C. Date: July 10, 1990

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