Product ID:MOLECULAR SIEVE TYPE 5A MSDS Date:01/01/1990 FSC:6850 NIIN:00-689-6438 MSDS Number: BXBLZ === Responsible Party === Company Name: UOP, MOLECULAR SIEVE DEPT Address:308 HARPER DRIVE City:MOORESTOWN State:NJ ZIP:08057 Country:US Info Phone Num:609-778-6283 Emergency Phone Num:609-778-6283, CHEMTREC 800-424-9300 CAGE:0H8X3 === Contractor Identific ation === Company Name: METADURE CORP Address:17 VALLEY RD Box:106 City:BUTLER State:NJ ZIP:07405-1707 Country:US CAGE:56190 Company Name: UOP, MOLECULAR SIEVE DEPT Address:308 HARPER DRIVE Box:City:MOORESTOWN State:NJ ZIP:08057 Country:US Phone:609-778-6283, CHEMTREC 800-424-9300 CAGE:0H8X3

Ingred Name:SODIUM OXIDE CAS:1313-59-3 Fraction by Wt: < 15% % Other REC Limits:NONE SPECIFIED

Ingred Name: ALPHA-ALUMINA (ALUMINUM OXIDE)

(EPA LISTS ONLY FIBROUS FORMS) (SARA III) CAS:1344-28-1 RTECS #:BD1200000 Fraction by Wt: < 40% % Other REC Limits:NONE SPECIFIED OSHA PEL:15 MG/M3 TDUST ACGIH TLV:10 MG/M3 TDUST; 9293

Ingred Name:SILICA GEL CAS:112945-52-5 RTECS #:VV7310000 Fraction by Wt: < 50% % Other REC Limits:NONE SPECIFIED OSHA PEL:6 MG/M3 TDUST ACGIH TLV:10 MG/M3 TDUST

Ingred Name:SILICA, CRYSTALLINE - QUARTZ CAS:14808-60-7 RTECS #:VV7330000 Fraction by Wt: < 1% % Other REC Limits:NONE SPECIFIED OSHA PEL:SEE TABLE Z3 ACGIH TLV:0.1 MG/M3 RDUST;9293

Ingred Name:CALCIUM OXIDE CAS:1305-78-8 RTECS #:EW3100000 Fraction by Wt: < 20% % Other REC Limits:NONE RECOMMENDED OSHA PEL:5 MG/M3 ACGIH TLV:2 MG/M3; 9192

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES Reports of Carcinogenicity:NTP:NO IARC:YES OSHA:NO Health Hazards Acute and Chronic:PRODUCT GETS HOT AS IT ABSORBS WATER. BURNS TO MOIST BODY TISSUES CAN RESULT. NOSE/THRO AT IRRITATION,

SKIN IRRITATION, EYE IRRITATION.

Explanation of Carcinogenicity:CRYSTALLINE SILICA IS CLASSIFIED AS "2A" (PROBABLY CARCINOGENIC TO HUMANS) BY IARC.

Effects of Overexposure:COUGH CHEST DISCOMFORT, LOCAL REDNESS ON SKIN AND/OR BURNS, EXCESS REDNESS OF THE CONJUNTIVA OF THE EYE, IRRITATION OF THE NOSE & THROAT, LUNG DAMAGE.

Medical Cond Aggravated by Exposure:BREATHING OF DUST MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIROTIC PULMONARY DISEASE.

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First Aid:SWALLOWING: IF INGESTED IN LARGE QUANTITIES, DRINK 2 GLASSES OF WATER. CONTACT PHYSICIAN FOR PERMISSION TO INDUCE VOMITING. SKIN CONTACT: WASH CONTAMINATED AREA WITH SOAP AND WATER. INHALATION: REMOVE THE PERSON TO FRESH AIR. EYE CONTACT: FLUSH EYES WITH WATER FOR 15 MINUTES. NOTES TO PHYSICIAN: THE USED PRODUCT CAN CONTAIN MATERIAL OF A HAARDOUS NATURE. IDENTIFY MATERIAL AND TREAT SYMPTOMATICALY

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Flash Point:NONFLAMMABLE

Extinguishing Media:UNUSED MATERIAL DOES NOT BURN. USE MEDIA APPROPRIATE FOR SURROUNDING FIRE.

Fire Fighting Procedures: DEPENDS ON THE USE OF THE MATERIAL MAY CONTAIN PRODUCTS OF A HAZARDOUS NATURE. THE USER OF THIS PRODUCT MUST IDENTIFY THE HAZARDS OF THE RETAINED MATERIAL.

Unusual Fire/Explosion Hazard:IN THEIR FRESH, UNUSED STATE, MOLECULAR SIEVES ARE NOT FLAMMABLE. WHEN EXPOSED TO WATER (MOISTUR

E) THEY CAN

GET QUITE HOT. FLOODING WILL REDUCE TEMPERATURES.

Spill Release Procedures:SWEEP THE SPILL AREA. COLLECT AND PLACE THE SPILLED MATERIAL IN A WASTE DISPOSAL CONTAINER. AVOID RAISING DUST. Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

Handling and Storage Precautions:STORE IN A COOL, DRY AREA. AVOID MOISTURE. KEEP CONTAINER CLOSED WHEN NOT IN USE. Other Precautions:OPEN CONTAINER SLOWLY. AVOID CONTACT WITH EYES AND SKIN. AVOID BREATHING DUST. USE WITH ADEQUATE VENTILATION.

======= Exposure Controls/Personal Protection ==========

Respiratory Protection: A NIOSH/MSHA APPROVED RESPIRATOR FOR PROTECTION AGAINST DUST, MIST AND VAPOR IS RECOMMENDED FOR OPERATIONS WHEN THE PERMISSIBLE EXPOSURE LIMIT MIGHT BE EXCEEDED. Ventilation: LOCAL EXHAUST VENTILATION IS RECOMMENDED FOR OPERATIONS WHERE THE PEL MI GHT BE EXCEEDED. Protective Gloves: USE GLOVES TO AVOID PROLONGED SKIN CNTCT Eye Protection: SAFETY GLASSES OR GOGGLES Other Protective Equipment: EMERGENCY EYEWASH AND SHOWER. Work Hygienic Practices: WASH WITH SOAP AND WATER AFTER HANDLING PRODUCT AND BEFORE EATING DRINKING OR SMOKING. Supplemental Safety and Health SELECT PROTECTIVE EQUIPMENT IN ACCORDANCE WITH OSHA REGULATIONS -- 29 CFR 1910.132 AND 1910.133 HCC:V7 Sp ec Gravity:1.1 Appearance and Odor: PRODUCT MAY APPEAR AS A BEAD, PELLET, MESH, CAKE OR POWDER; ODORLESS. Stability Indicator/Materials to Avoid:YES

CHEMICALS HAVING HIGH HEATS OF ABSORPTION SUCH AS OLEFINS, HCL, ETC. Stability Condition to Avoid:THE ADDITION OF WATER (MOISTURE) WITHOUT FLOODING CAN CAUSE RISE IN TEMPERATURE FROM HEAT OF ABSORPTION. Hazardous Decomposition Products:SODIUM OXIDE, ALUMINUM OXIDE, SILICON OXIDE, AND DECOMPOSITION PRODUCTS FROM ANY RETAINED MATERIAL ON THE SIEVE.

Waste Disposal Methods:DISCARD ANY PRODUCT (INCLUDING ANY RETAINED MATERIALS OF USE) IN DISPOSABLE CONTAINER OR LINER IN AN ENVIRONMENTALLY ACCEPTABLE MANNER IN FULL COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

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