

GRACE W R AND CO -- FORMED MOLECULAR SIEVE -- 6850-00-159-4466

===== Product Identification =====

Product ID:FORMED MOLECULAR SIEVE

MSDS Date:07/20/1998

FSC:6850

NIIN:00-159-4466

Status Code:A

MSDS Number: CKXNY

=== Responsible Party ===

Company Name:GRACE W R AND CO

Address:7500 GRACE DRIVE

City:COLUMBIA

State:MD

ZIP:21044

Country:US

Info Phone Num:410-531-4000 OR 410-531-4323

Emergency Phone Num:410-531-4764; 301-874-2009

Resp. Party Other MSDS Num.:REF. NO.

2501

CAGE:1L2Z7

=== Contractor Identification ===

Company Name:DAVISON CHEMICAL DIVISION OF WR GRACE & COMPANY

Address:5500 CHEMICAL RD

Box:City:BALTIMORE

State:MD

ZIP:21226-1698

Country:US

Phone:410-354-8954

CAGE:7U659

Company Name:GRACE W R AND CO

Address:7500 GRACE DRIVE

Box:City:COLUMBIA

State:MD

ZIP:21044

Country:US

Phone:410-531-4000 OR 410-531-4323

Contract Num:SP0450-01-M-D499

CAGE:1L2Z7

===== Composition/Information on Ingredients =====

Ingred Name:SODIUM OXIDE

CAS:

1313-59-3  
OSHA PEL:NOT LISTED  
ACGIH TLV:NOT LISTED

Ingred Name:CALCIUM OXIDE  
CAS:1305-78-8  
RTECS #:EW3100000  
OSHA PEL:5 MG/M3  
ACGIH TLV:2 MG/M3

Ingred Name:POTASSIUM OXIDE  
CAS:12136-45-7  
OSHA PEL:NOT LISTED  
ACGIH TLV:NOT LISTED

===== Hazards Identification =====

LD50 LC50 Mixture:NO DATA PROVIDED BY MANUFACTURER  
Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO  
Health Hazards Acute and Chronic:MOLECULAR SIEVES ARE NON-FIBROUS,  
SYNTHETIC ALUMINOSILICA  
TES (ZEOLITES) NOT TO BE CONFUSED WITH  
NATURAL ZEOLITES. ALL STUDIES TO DATE INDICATE THAT THEY DO NOT  
CAUSE SIGNIFIGANT HEALTH PROBLEMS. WHEN A CTIVATED, MOLECULAR  
SIEVES ACT AS A DESSICANT AND CAN CAUSE DRYING IRRITATION OF THE  
MUCOUS MEMBRANES AND SKIN IN CASES OF SEVERE EXPOSURE. THE AVERAGE  
CONCENTRATION OF QUARTZ IN THIS MATERIAL IS LESS THAN 2% (MAXIMUM  
IS = 3.0). THE PRIMARY ROUTE OF ENTRY IS INHALATION.  
Explanation of Carcinogenicity:THE MOST RECENT IARC CLASSIF  
ICATION OF  
CRYSTALLINE QUARTZ IS THAT CRYSTALLINE SILICA INHALED IN THE FORM  
OF QUARTZ OR CRISTOBALITE FROM OCCUPATIONAL SOURCES IS CARCINOGENIC  
TO HUMANS (GROUP 1). QUARTZ CAN CAUSE CANCER, SILICOSIS OR OTHER  
FIBROTIC LUNG DISEASE WITH PROLONGED EXPOSURE.  
Effects of Overexposure:AVOID PROLONGED BREAHING OF THE DUST OR CONTACT  
OF DUST WITH THE SKIN. THE DRYING ACTION OF THIS MATERIAL CAN CAUSE  
IRRITATION OF THE MUCOUS MEMBRANES OF THE NOSE AND THROAT AND  
IRRITATION O  
F THE SKIN .  
Medical Cond Aggravated by Exposure:DAVISON KKNOWS OF NO MEDICAL  
CONDITIONS ABNORMALLY AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

===== First Aid Measures =====

First Aid:EYES: IMMEDIATELY WASH FROM EYES WITH LARGE AMOUNTS OF  
WATER, OCCASIONALLY LIFTING UPPER AND LOWER EYE LIDS. IF IRRITATION  
OCCURS AND PERSISTS, SEEK MEDICAL ATTENTION. SKIN: WASH WITH SOAP  
AND WATER. INGESTION: MATERIAL WILL PASS THROUGH BODY NORMALLY.  
INHLA

TION: REMOVE TO FRESH AIR.

===== Fire Fighting Measures =====

Flash Point:NONFLAMMABLE

Extinguishing Media:NO DATA PROVIDED BY MANUFACTURER.

Fire Fighting Procedures:NO DATA PROVIDED BY MANUFACTURER.

Unusual Fire/Explosion Hazard:NO DATA PROVIDED BY MANUFACTURER.

===== Accidental Release Measures =====

Spill Release Procedures:VACUUM OR SWEEP UP OR FLUSH TO SEWER TREATED FOR SUSPENDED SOLIDS REMOVAL.

===== Handling and Storage =====

Handling and Storage Precautions:KEEP CONTAINERS TIGHTLY SEALED TO PROTECT PRODUCT QUALITY. WHEN POURING INTO A CONTAINER OF FLAMMABLE LIQUID, GROUND BOTH CONTAINERS ELECTRICALLY TO PREVENT A STATIC ELECTRIC SHOCK. WILL RELEASE HEAT WHEN ADSORBING WATER.

Other Precautions:WHEN TRANSFERRING BEADED MOLECULAR SIEVES WITH HIGH PRESSURE AIR, WEAR GOGGLES. MALFUNCTION OF EQUIPMENT CAN PROPEL BEADS WITH ENOUGH VELOCITY TO PENETRATE SKIN.

MAKE SURE THAT THE TRANSFER SYSTEM AND RECEIVING VESSELS ARE PROPERLY GROUNDED. FOLLOW STANDARD OPERATING INSTRUCTIONS. FOLLOWING CONTACT WITH TYPICAL (OTHER)

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

Respiratory Protection:IF DUSTY CONDITIONS PREVAIL, USE OF AN APPROVED NIOSH/MSHA DUST MASK IS RECOMMENDED.

Ventilation:NO DATA PROVIDED BY MANUFACTURER.

Protective Gloves:LOOSE WEAVE COTTON GLOVES.

Eye Protection:WHEN TRANSFERRING BEADED MOLECULAR SIEVES WITH HIGH PRESSURE AIR, WEAR GOGGLES.

Other Protective Equipment:IF ITS USE REQUIRES MANUAL HANDLING, WEAR LONG SLEEVES AND CLOSE-WEAVE COTTON GLOVES WITH TIGHT-FITTING WRISTLETS.

Work Hygienic Practices:NO DATA PROVIDED BY MANUFACTURER.

Supplemental Safety and Health  
NO DATA PROVIDED BY MANUFACTURER.

===== Physical/Chemical Properties =====

HCC:B3

Spec Gravity:2.1

pH:10.3-10.5 SLRRY

Solubility in Water:INSOLUBLE

Appearance and Odor:WHITE, GRAY, OR TA

N, BEADS; ODORLESS

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid: YES

REACTS WITH HF AND STRONG ACIDS OR ALKALI.

Stability Condition to Avoid: NO DATA PROVIDED BY MANUFACTURER.

Hazardous Decomposition Products: NO DATA PROVIDED BY MANUFACTURER.

===== Toxicological Information =====

Toxicological Information: ANIMAL TOXICOLOGY: TESTS ON NA2OX-TYPE SIEVES GAVE THE FOLLOWING RESULTS: 1-HOUR LC50 (RAT) > 2.

8 G/L. 48-HOUR

ORAL LD50 (RAT) EST. > 31,600 MG/KG. 48-HOUR DERMAL LD50 (RABBIT)

EST. > 2,000 MG/KG. NO T CONSIDERED AN OCULAR IRRITANT. TESTS FOR

FDA APPROVAL FOR USE IN FOOD: NOT A FOOD GRADE PRODUCT.

===== Ecological Information =====

Ecological: NOT KNOWN TO HAVE ANY ADVERSE EFFECT ON THE AQUATIC ENVIRONMENT WHEN PROPERLY DISPOSED. INSOLUBLE AND NONTOXIC.

===== Disposal Considerations =====

Waste Disposal Methods:

LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. COVER TO AVOID BLOWING OF DUST.

===== MSDS Transport Information =====

Transport Information: DOT: NOT CLASSIFIED AS A HAZARDOUS MATERIAL.

===== Regulatory Information =====

SARA Title III Information: THIS PRODUCT CONTAINS NO TOXIC CHEMICALS IN EXCESS OF THE APPLICABLE DE MINIMIS CONCENTRATIONS SPECIFIED UNDER 313 OF TITLE III SARA.

Federal Regulatory Information:

OSHA: PEL: MOLECULAR SIEVE-NOT LISTED IN

29 CFR 1910.1000. NIOSH: NOT INCLUDED ON THE LIST OF SUBSTANCES

REQUIRING TOXICITY STUDIES. ACGIH: TLV: MOLECULAR SIEVE-NOT LISTED

IN ACGIH-TLV'S. USDA: NOT APPLICABLE. FDA: NOT APPLICABLE.

State Regulatory Information: NO DATA PROVIDED BY MANUFACTURER.

===== Other Information =====

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