

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFICATION

PRODUCT: **NRP DESICCANT** HMIS CODES: **H F R**
 PRODUCT CODE: **MS 30**
 MANUFACTURER: UOP WHISTLER DISTRIBUTION
 ADDRESS: MOLECULAR SIEVE PLANT, P.O. BOX 11486, CHICKASAW, AL 36611
 INFORMATION: 609-727-9400 EMERGENCY: CHEMTREC 800-424-9300
 DATE: 5/2003 PREPARER: R. Madariaga
 DISTRIBUTOR: **NATIONAL REFRIGERATION PRODUCTS**
2900 SAMUEL DRIVE · BENSLEM, PA 19020-7306
1-800-352-6951

COMPOSITION, INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS	CAS NO.	ACGIH	OSHA	UNITS	% WT.
		TLV-TWA	PEL-TWA		
SILICON OXIDE (SYNTHETIC)	7631-86-9	10(I) / 3(R)	15(TD) / 5(R)	MG/M3	<65
SODIUM OXIDE	1313-59-3	NE	NE	NA	
<30					
ALUMINUM OXIDE (NON-FIBROUS)	1344-28-1	10	15(TD) / 5(R)	MG/M3	<30
POTASSIUM OXIDE	12136-45-7	NE	NE	NA	<15
MAGNESIUM OXIDE	1309-48-4	10 AS FU	15 AS FU	MG/M3	<5
QUARTZ	14808-60-7	0.05(R)	TD:30/(%SIO2+2)	MG/M3	<3
			RD:10/(%SIO2+2)		
FU=FUME	R=RESPIRABLE				
RD=RESPIRABLE DUST	I=INHALABLE				
TD=TOTAL DUST	NE=NONE ESTABLISHED				

NOTE: THE OSHA PERMISSIBLE EXPOSURE LIMITS (PEL) ARE DETERMINED FROM THE PERCENTAGE OF QUARTZ FROM AIRBORNE SAMPLES.

HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: IN THE FRESH UNUSED STATE, THIS PRODUCT IS NOT FLAMMABLE. WHEN FIRST WETTED, THE PRODUCT CAN HEAT UP TO THE BOILING POINT OF WATER. FLOOD WITH WATER TO COOL MATERIAL. REPEATED AND PROLONGED INHALATION OF CRYSTALLINE SILICA IN THE FORM OF QUARTZ FROM OCCUPATIONAL SOURCES MAY CAUSE CANCER.

POTENTIAL HEALTH EFFECTS:

PRIMARY ROUTES OF EXPOSURE: CONTACT WITH SKIN AND EYES . EXPOSURE MAY ALSO OCCUR VIA INHALATION OR INGESTION IF PRODUCT DUST IS GENERATED.

SKIN CONTACT: MAY CAUSE SKIN IRRITATION. THE PRODUCT GETS HOT AS IT FIRST ABSORBS WATER.

EYE CONTACT: DUST AND/OR PRODUCT MAY CAUSE EYE DISCOMFORT AND/OR IRRITATION SEEN AS TEARING AND REDDENING.

INGESTION: THE PRODUCT GETS HOT AS IT FIRST ABSORBS WATER. BURNS TO MOIST BODY TISSUES CAN RESULT IF CONTACT IS PROLONGED.

INHALATION: EXPOSURE TO DUST PARTICLES GENERATED FROM THIS MATERIAL MAY CAUSE IRRITATION OF THE RESPIRATORY TRACT. RREPEATED AND PROLONGED INHALATION OR CRYSTALLINE SILICA IN THE FROM OF QUARTZ FROM OCCUPATIONAL SOURCES MAY CAUSE CANCER.

TARGET ORGAN: PROLONGED OR REPEATED INHALATION MAY CAUSE LUNG INJURY/CANCER.

CARCINOGENICITY CLASSIFICATION:

IARC: SILICON OXIDE (SYNTHETIC)-UNCLASSIFIABLE AS TO CARCINOGENICITY IN HUMANS (GROU3). INHALED CRYSTALLINE SILICA IN THE FORM OF QUARTZ FROM OCCUPATIONAL SOURCES IS CARCINOGENIC TO HUMANS (GROUP 1)

NTP: QUARTZ - KNOWN HUMAN CARCINOGEN

OSHA: QUARTZ – KNOWN CARCINOGEN

ACGIH: ALUMINUM OXIDE – NOT CLASSIFIABLE AS A HUMAN CARCINOGEN (A4).
QUARTZ – SUSPECTED HUMAN CARCINOGEN (A2)

FIRST AID MEASURES

INHALATION: REMOVE THE VICTIM TO FRESH AIR. IF SYMPTOMS PERSIST, CALL A PHYSICIAN.

INGESTION: IMMEDIATELY GIVE LARGE VOLUME OF WATER TO DRINK. IF SYMPTOMS PERSIST, CALL A PHYSICIAN.

SKIN: WASH OFF WITH SOAP AND PLENTY OF WATER. IF SKIN IRRITATION PERSISTS, CALL A PHYSICIAN.

EYES: FLUSH IMMEDIATELY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF EYE IRRITATION PERSISTS, CONSULT A PHYSICIAN.

FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: NON-COMBUSTIBLE. USE EXTINGUISHING MEDIA FOR SURROUNDING FIRE.

UNSUITABLE EXTINGUISHING MEDIA: NA

FIRE AND EXPLOSION HAZARDS: THIS PRODUCT ITSELF DOES NOT BURN. THE USED PRODUCT CAN RETAIN MATERIAL OF A HAZARDOUS NATURE. IDENTIFY THAT MATERIAL AND INFORM THE FIRE FIGHTERS.

SPECIAL PROTECTIVE EQUIPMENT: IN THE CASE OF RESPIRABLE DUST AND/OR FUMES, USE SELF-CONTAINED BREATHING APPARATUS AND DUST IMPERVIOUS PROTECTIVE SUIT.

FLASH POINT: NA

ACCIDENTIAL RELEASE MEASURES

PERSONAL PRECAUTIONS: SEE BELOW (EXPOSURE CONTROLS/PERSONAL PROTECTION).

ENVIRONMENTALPRECAUTIONS: NO SPECIAL ENVIRONMENTAL PRECAUTION REQUIRED.

CLEAN-UP: SWEEP, SHOVEL OR VACUUM SPILLED PRODUCT INTO APPROPRIATE CONTAINERS (DO NOT USE A VACUUM IF MATERIAL HAS CONTACTED A HYDROCARBON MATERIAL). PICK-UP AND ARRANGE DISPOSAL WITHOUT CREATING DUST. NEVER USE SPILLED PRODUCT. SPILLED

PRODUCT SHOULD BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE GOVERNMENT REGULATIONS.

HANDLING AND STORAGE

HANDLING: HANDLE AND OPEN CONTAINER WITH CARE. AVOID FORMATION OF DUST PARTICLES. AVOID CONTACT WITH SKIN AND EYES. PROVIDE AND ELECTRICAL GROUND CONNECTION DURING LOADING AND TRANSFER OPERATIONS TO AVOID STATIC DISCHARGE IN AN EXPLOSIVE ATMOSPHERE AND TO PREVENT PERSONS HANDLING THE PRODUCT FROM RECEIVING STATIC SHOCKS. A COPY OF UOP'S BOOKLET, "PRECAUTIONS AND SAFE PRACTICES FOR HANDLING MOLECULAR SIEVES IN PROCESS UNITS", N-100C, CAN BE OBTAINED FROM YOUR UOP REPRESENTATIVE AT NO COST.

STORAGE: STORE IN ORIGINAL CONTAINER. KEEP IN A DRY PLACE

EXPOSURE CONTROLS, PERSONAL PROTECTION

ENGINEERING MEASURES: ENSURE ADEQUATE VENTILATION, ESPECIALLY IN CONFINED AREAS.

PERSONAL PROTECTION EQUIPMENT: HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE.

EYE PROTECTION: SAFETY GLASSES OR GOGGLES.

HAND PROTECTION: PROTECTIVE GLOVES.

SKIN AND BODY PROTECTION: WORK UNIFORM AND GLOVES TO PREVENT PROLONGED CONTACT.

RESPIRATORY PROTECTION: IN CASE OF INSUFFICIENT VENTILATION WEAR SUITABLE RESPIRATORY EQUIPMENT. BREATHING APPARATUS WITH FILTER: NIOSH CLASSIFICATION N-100 OR IF OIL/LIQUID AEROSOLS ARE PRESENT P-100 (42 CFR 84).

PHYSICAL AND CHEMICAL PROPERTIES

FORM:	PELLETS
COLOR:	TAN
ODOR:	NONE
Ph:	8-11 (AQUEOUS SLURRY)
BOILING POINT/RANGE:	NA
MELTING POINT/RANGE:	NA
FLASH POINT:	NA
AUTOIGNITION TEMPERATURE:	NA
BULK DENSITY:	ND
EXPLOSION LIMITS:	NA
VAPOR PRESSURE:	NA
RELATIVE DENSITY/SPECIFIC GRAVITY:	NA
VAPOR DENSITY:	NA
VISCOSITY:	NA
WATER SOLUBILITY:	ND
SOLUBILITY:	ND

STABILITY AND REACTIVITY

STABILITY: STABLE

HAZARDOUS DECOMPOSITION PRODUCTS: NO DECOMPOSITION IF USED AS DIRECTED. HYDROCARBONS AND OTHER MATERIALS THAT CONTACT THE PRODUCT DURING NORMAL USE CAN BE RETAINED ON THE PRODUCT. IT IS REASONABLE TO EXPECT THAT DECOMPOSITION PRODUCTS WILL COME FROM THESE RETAINED MATERIALS OF USE.

CONDITIONS / MATERIALS TO AVOID: SUDDEN CONTACT WITH HIGH CONCENTRATIONS OF CHEMICALS HAVING HIGH HEATS OF ADSORPTION SUCH AS OLEFINS, HCL, ETC. WHEN FIRST WETTED, THE PRODUCT CAN HEAT UP TO THE BOILING POINT OF WATER. FLOOD WITH WATER TO COOL MATERIAL.

TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50/ORAL/RAT = >32000 MG/KG
LD50/DERMAL/RABBIT = >2000 MG/KG
LC50/INHALATION/RAT = NO DATA AVAILABLE

CHRONIC TOXICITY:

CLASSIFICATION OF INGREDIENTS

EC CARCINOGENIC: NOT LISTED
EC MUTAGENIC: NOT LISTED
EC TOXIC FOR REPRODUCTION: NOT LISTED
CARCINOGENICITY (ACGIH): A4 (ALUMINUM OXIDE)
A2 (QUARTZ)
IARC CLASSIFICATION: GROUP 3 (SILICON OXIDE – SYNTHETIC)
GROUP 1 (QUARTZ)

ROUTES OF EXPOSURE: EXPOSURE MAY OCCUR VIA INHALATION, CONTACT WITH SKIN AND EYES.
IRRITATION:

SKIN (RABBIT): NOT CLASSIFIED AS A SKIN IRRITANT IN ANIMAL TESTING.

EYE (RABBIT): NOT CLASSIFIED AS AN EYE IRRITANT IN ANIMAL TESTING.

ADDITIONAL PRODUCT INFORMATION: THE TOXICOLOGICAL DATA HAS BEEN TAKEN FROM PRODUCTS OF SIMILAR COMPOSITION.

ADDITIONAL COMPONENT INFORMATION: NO DATA AVAILABLE

ECOLOGICAL INFORMATION

THERE IS NO ECOLOGICAL DATA AVAILABLE ON THIS PRODUCT.

DISPOSAL CONSIDERATIONS

PROVISIONS RELATING TO WASTE: EPA – RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) HAZARDOUS AND SOLID WASTE MANAGEMENT REGULATIONS.

DISPOSAL INFORMATION: THIS PRODUCT (IN ITS FRESH UNUSED STATE) IS NOT LISTED BY GENERIC NAME OR TRADEMARK NAME IN THE U.S. EPA'S RCRA REGULATIONS AND DOES NOT POSSESS ANY OF THE FOUR IDENTIFYING CHARACTERISTICS OF HAZARDOUS WASTE

(IGNITABILITY, CORROSIVITY, REACTIVITY OR TOXICITY). MATERIALS OF A HAZARDOUS NATURE THAT CONTACT THE PRODUCT DURING NORMAL USE MAY BE RETAINED ON THIS MATERIAL IN ORDER TO ASSESS THE WASTE DISPOSAL OPTIONS.

TRANSPORT INFORMATION

U.S. DOT: NOT REGULATED
NOT CLASSIFIED AS HAZARDOUS OR DANGEROUS IN THE MEANING OF TRANSPORT REGULATIONS.

REGULATORY INFORMATION

UNITED STATES

TSCA: ALL THE INGREDIENTS OF THIS MIXTURE ARE REGISTERED ON THE TSCA CHEMICAL SUBSTANCE INVENTORY.

CERCLA: THE FOLLOWING COMPONENT(S) OF THIS PRODUCT IS/ARE SUBJECT TO RELEASE REPORTING UNDER 40 CFR 302 WHEN RELEASE EXCEEDS THE REPORTABLE QUANTITY (RQ): NONE

SARA 302: THE FOLLOWING COMPONENT(S) OF THIS PRODUCT IS/ARE SUBJECT TO THE EMERGENCY PLANNING PROVISIONS OF 40 CFR 355 WHEN THERE ARE AMOUNTS EQUAL TO OR GREATER THAN THE THRESHOLD PLANNING QUANTITY (TPQ): NONE

SARA 313: THE FOLLOWING COMPONENT(S) HAVE BEEN SPECIFIED AS TOXIC CHEMICALS UNDER SARA SECTION 313 AND MAY BE SUBJECT TO THE TOXIC RELEASE INVENTORY (TRI) REPORTING REQUIREMENTS UNDER 40 CFR 372: NONE

THE FOLLOWING COMPONENTS ARE LISTED IN U.S. STATE REGULATIONS:

STATE REG REFERENCE:	COMPONENT(S)
CALIFORNIA-PROPOSITION 65:	SILICA, CRYSTALLINE
MASSACHUSETTS RTK:	QUARTZ ALUMINUM OXIDE
NEW JERSEY RTK:	SILICA, AMORPHOUS ALUMINUM OXIDE POTASSIUM OXIDE MAGNESIUM OXIDE QUARTZ
PENNSYLVANIA RTK:	SILICA ALUMINUM OXIDE MAGNESIUM OXIDE QUARTZ

NOTE: OTHER U.S. STATE REGULATIONS MAY EXIST, CHECK YOUR LOCAL SOURCES IF AVAILABLE OR CONTACT THE UOP PRODUCT STEWARDSHIP MANAGER.

CANADA

CANADIAN HAZARDOUS PRODUCTS ACT: THIS PRODUCT IS CLASSIFIED AS A MATERIAL CAUSING OTHER TOXIC EFFECTS, CARCINOGENICITY-CLASS D, DIVISION 2, SUBDIVISION A, UNDER REGULATIONS PURSUANT TO THE FEDERAL HAZARDOUS PRODUCTS ACT (e.g. WHMIS)

CANADIAN ENVIRONMENTAL PROTECTION ACT: ALL THE INGREDIENTS OF THIS MIXTURE ARE NOTIFIED TO CEPA AND ON THE DSL (DOMESTIC SUBSTANCE LIST).

EUROPEAN UNION (EU)

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES: ALL COMPONENTS OF THIS PRODUCT ARE INCLUDED IN EINECS/ELINCS.

COUNCIL OF EUROPEAN COMMUNITIES DIRECTIVE ON CLASSIFICATION, PACKAGING AND LABELLING OF DANGEROUS SUBSTANCES/PREPARATION (67/548/EEC & 88/379/EEC):
NO DANGEROUS GOODS LABEL REQUIRED

DISCLAIMER

INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BELIEVED TO BE ACCURATE AT THE TIME OF PREPARATION. NO WARRANTY IS MADE CONCERNING THE ACCURACY AND NO LIABILITY SHALL BE MADE FOR CLAIMS FOR USE OR RELIANCE OF THE RECOMMENDATIONS CONTAINED HEREIN.