RNASE AWAY (TM)

MATERIAL SAFETY DATA SHEET

______ PART I. WHAT IS THE MATERIAL AND WHAT DO I NEED TO KNOW IN AN EMERGENCY?

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED): RNASE AWAY (TM)

CHEMICAL NAMES/COMMON NAMES: SODIUM HYDROXIDE SOLUTION

SYNONYMS: NONE

MANUFACTURER'S NAME: MOLECULAR BIO-PRODUCTS, INC.

ADDRESS: 9888 WAPLES STREET

SAN DIEGO, CA 92121 CHEMTREC: 1-800-424-9300 EMERGENCY PHONE:

(619) 453-7551 BUSINESS PHONE:

PRODUCT USE: CLEANING AGENT

2. COMPOSITION AND INFORMATION ON INGREDIENTS

CHEMICAL NAME			%						ITS IN					
	!	!		!	. ACGIH		!		OSHA	A !				
	!	!		! TI	ĹV	!	STEL	!	$_{ m PEL}$!S	$_{ m TEL}$!]	IDLH	! OTHER
	!	!		!MG/	/M3	!	MG/M3	!	MG/M3	! M	G/M3	! N	IG/M3	3!
	-!	-!-		!		- ! -		!		- ! -		-!-		-!NIOSH
SODIUM HYDROXIDE	!1310-73-2	!	<1	! 1	ΙΕ*	!	2C	!	2	!	2C	!	200	! REL
	!	!		!		!		!		!		!		!MG/M3
	!	!		!		!		!		!		!		!
WATER	!7732-18-5	!	>95	! 1	ΙE	!	NE	!	NE	!	NE	!	NE	! NE

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: THIS PRODUCT IS CLEAR, COLORLESS LIQUID WITH A MILDLY FRAGRANT ODOR. THE PRODUCT IS MILDLY IRRITATING TO SKIN, EYES, MUCOUS MEMBRANES AND OTHER TISSUES WHICH MAY BE CONTAMINATED. THE BYPRODUCTS OF THERMAL DECOMPOSITION OF THIS MATERIAL INCLUDE TOXIC GASES (I.E. SODIUM OXIDES).

SYMPTOMS OF OVER EXPOSURE BY ROUTE OF EXPOSURE:

INHALATION: INHALATION OF A DUST OR MIST OF THIS MATERIAL MAY CAUSE MILD RESPIRATORY IRRITATION, COUGHING, BURNING OF THE RESPIRATORY TRACT, SHORTNESS OF BREATH, AND DIFFICULTY BREATHING.

CONTACT WITH SKIN OR EYES: EYE CONTACT WILL CAUSE IRRITATION AND MAY DAMAGE THE EYE. CONTACT OF THE SOLUTION WITH THE SKIN OR EYES MAY CAUSE BURNING, ITCHING, OR OTHERWISE REDDEN OR DAMAGE SKIN. PROLONGED CONTACT WITH THE SKIN MAY CAUSE DERMATITIS.

SKIN ABSORPTION: THIS PRODUCT IS NOT KNOWN TO SKIN ABSORB.

INGESTION: THIS MATERIAL IS MODERATELY TOXIC BY INGESTION, LEADING TO POSSIBLE BURNS OR IRRITATION OF THE MOUTH, THROAT, ESOPHAGUS AND DIGESTIVE SYSTEM. INGESTION MAY CAUSE PAIN OR DISCOMFORT AT ALL POINTS OF CONTACT.

INJECTION: INJECTION OF THIS MATERIAL MAY CAUSE SYMPTOMS OF PAIN OR IRRITATION SIMILAR TO SKIN CONTACT.

RNASE AWAY (TM)

HEALTH EFFECTS OR RISKS FROM EXPOSURE: AN EXPLANATION IN LAY TERMS. THIS MATERIAL MAY REDDEN OR DAMAGE SKIN AND WILL CAUSE INJURY OR IRRITATION TO THE EYE, IF CONTACT OCCURS. UNDER CONDITIONS OF NORMAL USE, NO INGESTION, INHALATION, OR INJECTION OF THE MATERIAL SHOULD OCCUR.

ACUTE: THIS MATERIAL MAY CAUSE BURNING OR REDDENING OF THE POINT OF CONTACT UPON ACUTE EXPOSURE. IF THE PRODUCT IS SPLASHED INTO THE EYE, PAIN OR IRRITATION MAY RESULT.

CHRONIC: THIS MATERIAL SHOULD NOT CAUSE ANY CHRONIC EXPOSURE EFFECTS.

4. FIRST-AID MEASURES

IF SPILLED ON SKIN OR EYES, IMMEDIATELY BEGIN DECONTAMINATION WITH RUNNING WATER. REMOVE EXPOSED OR CONTAMINATED CLOTHING, TAKING CARE NOT TO CONTAMINATE EYES. VICTIM & RESCUERS MUST SEEK IMMEDIATE MEDICAL ATTENTION. IF CHEMICAL IS IN EYES, OPEN VICTIM'S EYES WHILE UNDER GENTLE RUNNING WATER. USE SUFFICIENT FORCE TO OPEN EYE LIDS. HAVE VICTIM "ROLL" EYES. MINIMUM FLUSHING IS FOR 15 MINUTES. IF CHEMICAL IS INHALED, REMOVE VICTIM TO FRESH AIR AND USE ARTIFICIAL RESPIRATION TO SUPPORT VITAL FUNCTIONS. REMOVE OR COVER GROSS CONTAMINATION TO AVOID EXPOSURE TO RESCUERS.

IF CHEMICAL IS SWALLOWED, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. IF PROFESSIONAL ADVICE IS NOT AVAILABLE, INDUCE VOMITING. NEVER INDUCE VOMITING OR GIVE DILUTENTS (MILK OR WATER) TO SOMEONE WHO IS UNCONSCIOUS, HAVING CONVULSIONS, OR WHO CANNOT SWALLOW.

VICTIM OF CHEMICAL EXPOSURE AND ALL RESCUERS MUST BE TAKEN FOR MEDICAL ATTENTION. TAKE COPY OF LABEL AND MSDS TO PHYSICIAN OR HEALTH PROFESSIONAL WITH

VICTIM.

5. FIRE-FIGHTING MEASURES

FLASH POINT, C (METHOD): NOT APPLICABLE AUTOIGNITION TEMPERATURE: NOT APPLICABLE.

FLAMMABLE LIMITS IN AIR BY VOLUME, %: LOWER - NOT APPLICABLE.

UPPER - NOT APPLICABLE.

NFPA HAZARD RATINGS:

HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 0

TRANSPORTATION OF DANGEROUS GOODS FLAMMABILITY CLASSIFICATION: NOT APPLICABLE. FIRE EXTINGUISHING MATERIALS: PRODUCT WILL NOT CONTRIBUTE TO A FIRE. CONTROL SURROUNDING FIRES. CONTROL RUN-OFF IF POSSIBLE.

WATER SPRAY: OK CARBON DIOXIDE: OK FOAM: OK DRY CHEMICAL: OK HALON: OK OTHER:

SPECIAL FIRE FIGHTING PROCEDURES: INCIPIENT FIRE RESPONDERS SHOULD WEAR EYE PROTECTION. STRUCTURAL FIRE FIGHTERS MUST WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE EQUIPMENT.

UNUSUAL FIRE & EXPLOSION HAZARDS: THIS PRODUCT MAY RELEASE OXIDES OF SODIUM IF SUBJECT TO A FIRE. FIREFIGHTERS SHOULD PREVENT THE MATERIAL FROM COMING INTO CONTACT WITH THEIR SKIN OR CLOTHING.

RNASE AWAY(TM) PAGE 3

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: UNCONTROLLED RELEASES SHOULD BE RESPONDED TO BY TRAINED PERSONNEL USING PRE-PLANNED PROCEDURES. PROPER PROTECTIVE EQUIPMENT SHOULD BE USED. IN CASE OF A SPILL, CLEAR THE AFFECTED AREA, PROTECT PEOPLE, & RESPOND WITH TRAINED PERSONNEL. MINIMUM PERSONAL PROTECTIVE EQUIPMENT SHOULD BE DOUBLE-GLOVES (RUBBER OVER LATEX GLOVES) AND RUBBER APRON, SPLASH GOGGLES OR SAFETY GLASSES. RESPIRATORY PROTECTION SHOULD BE USED. ABSORB SPILLED LIQUID WITH POLYPADS OR OTHER APPROPRIATE MATERIALS. DECONTAMINATE THE AREA THOROUGHLY PLACE ALL SPILL RESIDUE IN A DOUBLE PLASTIC BAG AND SEAL. DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL HAZARDOUS WASTE DISPOSAL REGULATIONS.

PART III. HOW CAN I PREVENT HAZARDOUS SITUATIONS FROM OCCURING?

7. HANDLING AND STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: AVOID GETTING CHEMICALS ON YOU OR IN YOU. WASH HANDS AFTER HANDLING CHEMICALS. DO NOT EAT OR DRINK WHILE HANDLING CHEMICALS. CARE MUST BE TAKEN TO AVOID CONTACT WITH THE EYES OR SKIN.

STORAGE AND HANDLING PRACTICES: THIS CHEMICAL MAY BE STORED WITH OTHER LABORATORY CLEANING COMPOUNDS, AWAY FROM MATERIAL WITH WHICH IT IS INCOMPATIBLE. ONLY PERSONS FAMILIAR WITH HANDLING CORROSIVE CHEMICALS AND PROPERLY TRAINED IN THEIR USE SHOULD USE THIS PRODUCT.

PROTECTIVE PRACTICES DURING MAINTENENCE OF CONTAMINATED EQUIPMENT: FOLLOW PRACTICES INDICATED ABOVE. MAKE CERTAIN EQUIPMENT IS LOCKED SAFE AND ADEOUATE VENTILATION IS PROVIDED.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION & ENGINEERING CONTROLS: USE WITH ADEQUATE VENTILATION. USE A MECHANICAL FAN OR VENT AREA TO OUTSIDE. THIS PRODUCT DOES NOT PRODUCE MISTS OR VAPORS; HOWEVER, THE PROCESS IN WHICH THE PRODUCT IS USED MAY PRODUCE IRRITATING MISTS OR VAPORS. PROVIDE ADEQUATE VENTILATION IN SUCH CASES.

RESPIRATORY PROTECTION: NO RESPIRATORY PROTECTION IS REQUIRED WHEN THIS PRODUCT IS USED FOR ITS INTENDED PURPOSE.

EYE PROTECTION: SPLASH GOGGLES OR SAFETY GLASSES ARE MANDATORY.

HAND PROTECTION: USE NEOPRENE RUBBER, NITRILE OR LATEX GLOVES. USE DOUBLE-GLOVES FOR SPILL CLEANUP PROCEDURES. CHECK GLOVES FOR LEAKS. WASH HANDS AFTER REMOVING GLOVES.

BODY PROTECTION: WEAR A LABORATORY COAT, CLOSED IN THE FRONT. FOR SOME TASKS, AN IMPERMEABLE APRON MAY BE NECESSARY.

9. PHYSICAL AND CHEMICAL PROPERTIES

VAPOR DENSITY: EQUAL TO WATER SPECIFIC GRAVITY: 1 SOLUBILITY IN H2O: COMPLETE OIL-H2O DISTRIBUTION COEFFICIENT: 0 DENSITY: 1 GM/ML VAPOR PRESSURE, MM HG @ 20 C: 20 RNASE AWAY (TM)

EVAPORATION RATE (H2O=1): 1 MELTING POINT OR RANGE: 0 C BOILING POINT: 100 C PH: 11-12

______ APPEARANCE AND COLOR: CLEAR, COLORLESS SOLUTION WITH A MILD FRAGRANT ODOR.

HOW TO DETECT THIS SUBSTANCE (WARNING PROPERTIES): THE ONLY UNIQUE WARNING PROPERTY OF THIS MATERIAL IS THE MILD FRAGRANCE. THE LIQUID WILL TURN PH PAPER TO PURPLE.

10. STABILITY AND REACTIVITY

STABILITY: STABLE

CONDITIONS TO AVOID: EXTREME HEAT MAY CAUSE PRODUCT TO DECOMPOSE, PRODUCING TOXIC GASES CONTAINING OXIDES OF SODIUM.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: THIS PRODUCT IS INCOMPATIBLE WITH ALUMINUM, AND OTHER METALS, ACID SOLUTIONS AND ACIDIC CHEMICALS, AND ANY OTHER MATERIAL SUSCEPTIBLE TO A CAUSTIC, CORROSIVE SOLUTION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

EXPLOSION IMPACT SENSITIVITY: INSENSITIVE. STATIC DISCHARGE SENSITIVITY: INSENSITIVE.

PART IV IS THERE ANY OTHER USEFUL INFORMATION ABOUT THIS MATERIAL?

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: EYE DAMAGE IS SEVERE WHEN TESTED IN MONKEYS OR RABBITS FOR 24 HOURS. SKIN DAMAGE IS SEVERE WHEN TESTED ON RABBITS FOR 24 HOURS. LD50 INTRAPERITONEAL, MOUSE 40 MG/KG; LDLO ORAL RABBIT 500 MG/KG.

SUSPECTED CANCER AGENT: THIS PRODUCT'S INGREDIENTS ARE NOT FOUND ON THE FOLLOWING LISTS: FEDERAL OSHA Z LIST, NTP, IARC, CAL/OSHA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: SKIN CONTACT WILL AGRAVATE ANY PRE-EXISTING SKIN DISORDER.

RECOMMENDATIONS TO PHYSICIANS: TREAT SYMPTOMS. CONTACT OF CAUSTIC SOLUTIONS TO THE EYE MAY CAUSE GLAUCOMA.

TRRITANCY: THIS PRODUCT MAY BE TRRITATING TO THE SKIN.

SENSITIZATION: THIS PRODUCT DOES NOT CAUSE ALLERGIC SENSITIZATION.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: SODIUM HYDROXIDE IS RAPIDLY DISSIPATED INTO THE ENVIRONMENT. RELEASES MAY CAUSE A LOCAL TRANSITORY ENVIRONMENTAL UPSET AT THE POINT OF RELEASE, BUT THE EFFECTS ARE QUICKLY MINIMIZED VIA NEUTRALIZATION OR DILUTION PROCESSES.

EFFECT OF MATERIAL ON PLANTS OR ANIMALS: SODIUM HYDROXIDE SOLUTIONS CAN CAUSE SEVERE BURNS TO PLANTS OR ANIMALS RESULTING IN SIGNIFICANT LOCAL ENVIRON-MENTAL DAMAGE. DAMAGED PLANTS WILL USUALLY RECOVER; BURNED ANIMALS MAY NOT SURVIVE.

EFFECT OF CHEMICAL ON AQUATIC LIFE: SODIUM HYDROXIDE RELEASES OF THIS CONCENTRATION, IF RELEASED INTO WATERWAYS, MAY CAUSE A LOCAL INCREASE IN PH, RNASE AWAY(TM)

PAGE 5

LEADING TO INJURY OR DEATH OF AQUATIC PLANTS AND ANIMALS. THE PH IS USUALLY QUICKLY RETURNED TO NORMAL WHEN THE SODIUM HYDROXIDE SOURCE IS REMOVED OR DISSIPATED

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: WASTE DISPOSAL MUST BE IN ACCORDANCE WITH APPROPRIATE FEDERAL, STATE, AND LOCAL REGULATIONS. THIS CHEMICAL, IF UNALTERED BY THE HANDLING, MAY BE DISPOSED OF BY TREATMENT AT A PERMITTED FACILITY OR AS ADVISED BY YOUR LOCAL HAZARDOUS WASTE REGULATORY AUTHORITY.

EPA WASTE NUMBER: NOT APPLICABLE FOR WASTES CONSITING ONLY OF THIS PRODUCT.

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME:
HAZARD CLASS NUMBER AND DESCRIPTION:
UN IDENTIFICATION NUMBER:
PACKING GROUP:
NOT APPLICABLE.
DOT LABEL(S) REQUIRED:
EMERGENCY RESPONSE GUIDE NUMBER:
NOT APPLICABLE.
NOT APPLICABLE.

EMERCENCE RESIGNOR GOLDE ROMANIA. NOT ATTECADED.

15. REGULATORY INFORMATION

SARA REPORTING REQUIREMENTS: THE CHEMICAL(S), LISTED IN THE HAZARDOUS INGREDIENTS SECTION, WHICH ARE MARKED WITH AN (*) ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT. THE REPORTABLE QUANTITY FOR SODIUM HYDROXIDE IS 1,000 POUNDS.

TSCA INVENTORY STATUS: THE CHEMICALS IN THIS COMPOUNDS ARE LISTED ON THE TSCA INVENTORY.

STATE REGULATORY INFORMATION: THE FOLLOWING CHEMICALS IN THIS PRODUCT ARE COVERED UNDER SPECIFIC STATE REGULATIONS:

ALASKA - DESIGNATED TOXIC AND HAZARDOUS SUBSTANCES:	YES			
CALIFORNIA - PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS:	YES			
FLORIDA - SUBSTANCE LIST:	YES			
ILLINOIS - TOXIC SUBSTANCE LIST:	YES			
KANSAS - SECTION 302/313 LIST:	YES			
MASSACHUSETTS - SUBSTANCE LIST:	YES			
MINNESOTA - LIST OF HAZARDOUS SUBSTANCES:	YES			
MISSOURI - EMPLOYER INFORMATION/TOXIC SUBSTANCE LIST:				
NEW JERSEY - RIGHT TO KNOW HAZARDOUS SUBSTANCE LIST:				
NORTH DAKOTA - LIST OF HAZARDOUS CHEMICALS AND REPORTABLE QUANTITIES:	YES			
PENNSYLVANIA - HAZARDOUS SUBSTANCE LIST:	YES			
RHODE ISLAND - HAZARDOUS SUBSTANCE LIST:	YES			
TEXAS - HAZARDOUS SUBSTANCE LIST:	YES			
WEST VIRGINIA - HAZARDSOUS SUBSTANCE LIST:	YES			
WISCONSIN - TOXIC AND HAZARDOUS SUBSTANCES:	YES			

RNASE AWAY(TM) PAGE 6

LABELING (PRECAUTIONARY STATEMENTS):

TARGET ORGANS: EYES, SKIN, MUCOUS MEMBRANES.

CAUTION!: MAY CAUSE EYE BURNS OR SKIN IRRITATION. MAY BE HARMFUL OR FATAL IF INGESTED. DO NOT GET IN EYES OR ON SKIN OR CLOTHING. AVOID PROLONGED OR REPEATED CONTACT. AVOID BREATHING DUST OR MIST CONTAINING THIS PRODUCT. IN THE EVENT OF CONTACT, IMMEDIATELY RINSE AFFECTED AREA FOR AT LEAST 15 MINUTES WITH LARGE AMOUNTS OF WATER. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. SEEK MEDICAL ASSISTANCE; MEDICAL PERSONNEL SHOULD TREAT SYMPTOMS. IN THE EVENT OF A SPILL, CAREFULLY CLEAN-UP AND DECONTAMINATE AREA USING ESTABLISHED PROCEDURES. IN THE EVENT OF A FIRE, FOLLOW STANDARD RESPONSE PROCEDURES. STORE IN TIGHTLY CLOSED CONTAINER IN A COOL LOCATION. OPEN CONTAINERS CAREFULLY. AVOID STORAGE OR CONTACT WITH INCOMPATIBLE MATERIALS. REFER TO MSDS FOR ADDITIONAL INFORMATION. KEEP OUT OF REACH OF CHILDREN.

16. OTHER INFORMATION

PREPARED BY: CHEMICAL SAFETY ASSOCIATE, INC.

9163 CHESAPEAKE DRIVE SAN DIEGO, CA 92123-1002

619/565-0302

DATE OF PREPARATION: MARCH 22, 1994

*NE = NOT ESTABLISHED