

Lab

MATERIAL SAFETY DATA SHEET

EM SCIENCE

-1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER.....-

EM SCIENCE
A DIVISION OF EM INDUSTRIES
P.O. BOX 70
480 DEMOCRAT RD.
GIBBSTOWN, N.J. 08027

PREPARATION DATE.- 03/03/94

DATE MSDS PRINTED.- MAR 18, 1994

INFORMATION PHONE NUMBER.- 609-354-9200
HOURS- MON. TO FRI. 8-30-5
CHEMTREC EMERGENCY NUMBER- 800-424-9300
HOURS- 24 HRS A DAY

CATALOG NUMBER-S--

441	NX0409	NX0409I	NX0409P	NX0409PS	NX0409T
NX0409TP	NX0411	NX0411U	NX0412		

CHEMICAL NAME.....-

NITRIC ACID

TRADE NAME.....-

AQUAFORTIS- HYDROGEN NITRATE

CHEMICAL FAMILY.- INORGANIC ACID

FORMULA.....-

CONCENTRATED HNO3

MOLECULAR WEIGHT.- 63.01

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS #	APPR %
NITRIC ACID	7697-37-2	100%

APPROXIMATE PER CENT INDICATES THAT PRODUCT IS A
CONCENTRATED ACID. NITRIC ACID ASSAY IS APPROXIMATELY 70%.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUSES SEVERE BURNS.
VAPOR EXTREMELY HAZARDOUS.
MAY CAUSE NITROUS GAS POISONING.
MAY BE FATAL IF INHALED OR SWALLOWED.
SYMPTOMS OF LUNG INJURY MAY BE DELAYED.
STRONG OXIDIZER.
SPILLAGE MAY CAUSE FIRE OR LIBERATE DANGEROUS GAS.

APPEARANCE.....-
COLORLESS LIQUID WITH ACRID ODOR.

POTENTIAL HEALTH EFFECTS -ACUTE AND CHRONIC-

SYMPTOMS OF EXPOSURE-

CAUSES SEVERE BURNS ON CONTACT WITH ANY BODY TISSUE.
INHALATION OF VAPORS OR MISTS CAN CAUSE SEVERE BURNS TO RESPIRATORY
PASSAGES, PNEUMONIA AND PULMONARY EDEMA.
CAN BE FATAL IF INHALED OR SWALLOWED.
SYMPTOMS OF LUNG INJURY MAY BE DELAYED.

MEDICAL COND. AGGRAVATED BY EXPOSURE-
RESPIRATORY CONDITIONS

ROUTES OF ENTRY.....-
INHALATION, INGESTION OR SKIN CONTACT.

CARCINOGENICITY.....-
THE MATERIAL IS NOT LISTED -IARC, NTP, OSHA- AS CANCER CAUSING
AGENT.

4. FIRST AID MEASURES

EMERGENCY FIRST AID-

GET MEDICAL ASSISTANCE FOR ALL CASES OF OVEREXPOSURE.
SKIN- IMMEDIATELY FLUSH THOROUGHLY WITH LARGE AMOUNTS OF WATER.
EYES- IMMEDIATELY FLUSH THOROUGHLY WITH WATER FOR AT LEAST 15
MINUTES.
INHALATION- REMOVE TO FRESH AIR- GIVE ARTIFICIAL RESPIRATION IF
BREATHING HAS STOPPED.
INGESTION- DO NOT INDUCE VOMITING- IF CONSCIOUS, GIVE WATER
FREELY AND GET MEDICAL ATTENTION.

5. FIRE FIGHTING MEASURES

FLASH POINT -F-.....- NONCOMBUSTIBLE
FLAMMABLE LIMITS LEL -%-.- N/A
FLAMMABLE LIMITS UEL -%-.- N/A
EXTINGUISHING MEDIA.....-
WATER SPRAY, DRY CHEMICAL

FIRE FIGHTING PROCEDURES.-

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING.

FIRE & EXPLOSION HAZARDS.-

CAN REACT EXPLOSIVELY WITH CERTAIN REDUCING
AGENTS AND COMBUSTIBLES- SUCH AS, METAL POWDERS, CARBIDES, H₂S,

MSDS -CONTINUED- - NX0409

PAGE # 2

TURPENTINE.

6. ACCIDENTAL RELEASE MEASURES

SPILL RESPONSE-

EVACUATE THE AREA OF ALL UNNECESSARY PERSONNEL.

WEAR SUITABLE PROTECTIVE EQUIPMENT LISTED UNDER EXPOSURE / PERSONAL PROTECTION.

ELIMINATE ANY IGNITION SOURCES UNTIL THE AREA IS DETERMINED TO BE FREE FROM EXPLOSION OR FIRE HAZARDS.

CONTAIN THE RELEASE AND ELIMINATE ITS SOURCE, IF THIS CAN BE DONE WITHOUT RISK.

TAKE UP AND CONTAINERIZE FOR PROPER DISPOSAL AS DESCRIBED UNDER DISPOSAL.

COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS ON REPORTING RELEASES. REFER TO REGULATORY INFORMATION FOR REPORTABLE QUANTITY AND OTHER REGULATORY DATA.

EM SCIENCE RECOMMENDS SPILL-X NEUTRALIZERS AND ABSORBENT AGENTS FOR VARIOUS TYPES OF SPILLS.

ADDITIONAL INFORMATION ON THE SPILL-X PRODUCTS CAN BE PROVIDED THROUGH THE EM SCIENCE TECHNICAL SERVICE DEPARTMENT

-609- 354-9200.

THE FOLLOWING EM SCIENCE SPILL-X NEUTRALIZER AND ABSORBENT IS RECOMMENDED FOR THIS PRODUCT-

SX0861

ACID SPILL TREATMENT KIT

7. HANDLING AND STORAGE

HANDLING & STORAGE-

KEEP CONTAINER TIGHTLY CLOSED AND PROTECTED FROM PHYSICAL DAMAGE. STORE IN A COOL, DRY AREA AWAY FROM COMBUSTIBLE OR REDUCING MATERIALS.

DO NOT BREATHE VAPOR OR MIST.

DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING.

RETAINED RESIDUE MAY MAKE EMPTY CONTAINERS HAZARDOUS- USE CAUTION-

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT-

VENTILATION, RESPIRATORY PROTECTION, PROTECTIVE CLOTHING, EYE PROTECTION MATERIAL MUST BE HANDLED OR TRANSFERRED IN AN APPROVED FUME HOOD OR WITH EQUIVALENT VENTILATION.

PROTECTIVE GLOVES -NATURAL RUBBER, NEOPRENE, PVC OR EQUIVALENT- MUST BE WORN TO PREVENT SKIN CONTACT

PROTECTIVE CLOTHING -NATURAL RUBBER, NEOPRENE, PVC OR EQUIVALENT-

MSDS -CONTINUED- - NX0409

PAGE # 3

SHOULD BE WORN WHEN HANDLING THIS MATERIAL
 SAFETY GLASSES WITH SIDE SHIELDS MUST BE WORN AT ALL TIMES.
 RESPIRATORY PROTECTION- IF WORKPLACE EXPOSURE LIMIT-S- OF PRODUCT
 OR ANY COMPONENT IS EXCEEDED -SEE TLV/PEL-, A NIOSH/MSHA APPROVED
 AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER
 ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER
 NIOSH/MSHA RESPIRATORS -NEGATIVE PRESSURE TYPE- UNDER SPECIFIED
 CONDITIONS -SEE YOUR SAFETY EQUIPMENT SUPPLIER-. ENGINEERING
 AND/OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE
 EXPOSURE.

WORK / HYGENIC PRACTICES-

WASH THOROUGHLY AFTER HANDLING.

DO NOT TAKE INTERNALLY.

EYE WASH AND SAFETY EQUIPMENT SHOULD BE READILY AVAILABLE.

EXPOSURE GUIDELINES

OSHA - PEL-								
COMPONENT	TWA		STEL		CL		SKIN	
	PPM	MG/M3	PPM	MG/M3	PPM	MG/M3		
NITRIC ACID	2	5	4	10				
ACGIH - TLV-								
COMPONENT	TWA		STEL		CL		SKIN	
	PPM	MG/M3	PPM	MG/M3	PPM	MG/M3		
NITRIC ACID	2	5.2	4	10				

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT -C 760 MMHG-. 122C
 MELTING POINT -C-. -34C
 SPECIFIC GRAVITY -H2O - 1-. 1.41
 VAPOR PRESSURE -MM HG-. 62 20C
 PERCENT VOLATILE BY VOL -%-. INDETERMINATE
 VAPOR DENSITY -AIR - 1-. 2.5
 EVAPORATION RATE -BUAC - 1-. N/A
 SOLUBILITY IN WATER -%-. MISCIBLE
 APPEARANCE-.
 COLORLESS LIQUID WITH ACID ODOR.

10. STABILITY AND REACTIVITY

STABILITY.....- YES

HAZARDOUS POLYMERIZATION-
DOES NOT OCCUR

HAZARDOUS DECOMPOSITION.-
NOX

CONDITIONS TO AVOID.....-
STRONG OXIDIZER-
AVOID CONTACT WITH ALL COMBUSTIBLE MATTER

MATERIALS TO AVOID.....-
-X- WATER
- - ACIDS
-X- BASES
- - CORROSIVES
- - OXIDIZERS
-X- OTHER -
REDUCING AGENTS, ORGANIC MATERIALS, COMBUSTIBLE MATTER

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA-
UNR-HAN LOLO- 110 MG/KG

TOXICOLOGICAL FINDINGS-
TESTS ON LABORATORY ANIMALS INDICATE MATERIAL MAY PRODUCE ADVERSE
REPRODUCTIVE EFFECTS.
CITED IN REGISTRY OF TOXIC EFFECTS OF SUBSTANCES -RTECS-

12. DISPOSAL CONSIDERATIONS

EPA WASTE NUMBERS- D002
TREATMENT-
SPECIFIED TECHNOLOGY - NEUTRALIZE TO PH 6-9. CONTACT YOUR LOCAL
PERMITTED WASTE DISPOSAL SITE -TSD- FOR PERMISSIBLE TREATMENT
SITES.
ALWAYS CONTACT A PERMITTED WASTE DISPOSER -TSD- TO ASSURE
COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

13. TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME....-
NITRIC ACID
DOT ID NUMBER.....- UN2031

14. REGULATORY INFORMATION

TSCA INVENTORY.....-

THIS PRODUCT IS A -MIXTURE-. THE CAS NUMBERS OF ALL COMPONENTS ARE LISTED ON THE TSCA INVENTORY.

COMPONENT	SARA EHS -302-	SARA EHS TPQ -LBS-	CERCLA RQ -LBS-
NITRIC ACID	Y	1000	1000

COMPONENT	OSHA FLOOR LIST	SARA 313	DEMINIMIS FOR SARA 313 -%-
NITRIC ACID	Y	Y	1.0

15. OTHER INFORMATION

COMMENTS-

NONE

NFPA HAZARD RATINGS-

HEALTH - 3
FLAMMABILITY - 0
REACTIVITY - 0
SPECIAL HAZARDS - CXY

REVISION HISTORY-

08/01/81 11/01/83 01/24/87 10/27/87 09/07/88 03/15/89 03/01/91
11/26/91 05/11/93

- - REVISED SECTION

N/A - NOT AVAILABLE

N/E - NONE ESTABLISHED

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MSDS -CONTINUED- - NX0409

PAGE # 6

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MSDS - NX0409

PAGE # 7