

PHOENIX INDUSTRIES INC -- NITRIC ACID, TECHNICAL -- 6810-00-236-5670

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

Product ID:NITRIC ACID, TECHNICAL

MSDS Date:04/08/1999

FSC:6810

NIIN:00-236-5670

Status Code:A

MSDS Number: CKFXB

=== Responsible Party ===

Company Name:PHOENIX INDUSTRIES INC

Address:11028 S LEADBETTER RD UNIT 10

City:ASHLAND

State:VA

ZIP:23005

Country:US

Info Phone Num:804-264-5183

Emergency

Phone Num:804-264-5183

Chemtrec Ind/Phone:(800)424-9300

CAGE:0YED2

=== Contractor Identification ===

Company Name:PHOENIX INDUSTRIES INC

Address:1519 CHAMBERLAYNE PARKWAY

Box:City:RICHMOND

State:VA

ZIP:23222

Country:US

Phone:804-264-5183/FAX: 264-5535

Contract Num:SPO450-00-M-D935

CAGE:0YED2

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

Ingred Name:NITRIC ACID

CAS:7697-37-2

RTECS #:QU5775000

Minumum % Wt:65.

Maxumum % Wt:70.

OSHA PEL:5 MG/M3;2 PPM

ACGIH TLV:5.2 MG/M3;2 P

PM
ACGIH STEL:10 MG/M3;4 PPM
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:WATER
CAS:7732-18-5
RTECS #:ZC0110000
Minumum % Wt:30.
Maxumum % Wt:35.

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

LD50 LC50 Mixture:INHALATION, RAT LC50: 67 PPM
Health Hazards Acute and Chronic:INHALATION: CORROSIVE! INHALATION OF VAPORS CAN CAUSE BREATHING DIFFICULTIES & LEAD TO PNEUMONIA & PULMONARY EDEMA, WHICH MAY BE FATAL. INGESTION: CORROSIVE! SWALLOWING NITRIC ACID CAN CAUSE IMMEDIA TE PAIN & BURNS OF THE MOUTH, THROAT, ESOPHAGUS & GASTROINTESTINAL TRACT. SKIN: CORROSIVE! CAN CAUSE REDNESS, PAIN, AND SEVERE SKIN BURNS. CONCENTRATED SOLUTIONS CAUSE DEEP ULCERS AND STAIN. EYES: C ORROSIVE! VAPORS ARE IRRITATING & MAY CAUSE SEVERE DAMAGE TO EYES. SPLASHES MAY CAUSE SEVERE BURNS & PERMANENT EYE DAMAGE. CHRONIC: LONG-TERM EXPOSURE TO CONCENTRATED VAPORS MAY CAUSE EROSION OF TEETH & LUNG DAMAGE.

Effects of Overexposure:INHALATION: COUGHING, CHOKING, AND IRRITATION OF THE NOSE, THROAT, AND RESPIRATORY TRACT. SYMPTOMS MAY DISAPPEAR ONLY TO RETURN IN A FEW HOURS & MORE SEVERELY. ONSET OF SYMPTOMS MAY BE DELAYED FOR 4-3 0 HOURS. SKIN: REDNESS, PAIN, SEVERE BURNS. EYES: SEVERE BURNS, PERMANENT EYE DAMAGE. INGESTION: PAIN, BURNS TO MOUTH, THROAT, ESOPHAGUS & GI TRACT.

Medical Cond Aggravated by Exposure:PERSONS WITH PRE-EXISTING SKIN DISORDERS, EYE DISEASE, OR CARDIOPULMONARY DISEASE MAY BE MORE SU SCEPTIBLE TO THE EFFECTS OF THIS SUBSTANCE.

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

First Aid:INHALATION:REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. INGESTION: DO NOT INDUCE VOMITING! GIVE LARGE QUANTITIES OF WATER OR MILK IF AVA ILABLE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 M

15 MINUTES WHILE REMOVING

CONTAMINATED CLOTHING & SHOES. WASH CLOTHING BEFORE REUSE.

THOROUGHLY CLEAN SHOES BEFORE REUSE. EYE CONTACT: IMMEDIATELY FLUSH

EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, LIFTING LIDS

OCCASIONALLY. GET MEDICAL ATTENTION.

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

Extinguishing Media:WATER SPRAY MAY BE USED TO KEEP FIRE EXPOSED
CONTAINERS COOL. DO NOT GET WATER INSIDE CONTAINER.

Fire Fighting Procedures:IN THE EVENT OF

A FIRE, WEAR FULL PROTECTIVE

CLOTHING & NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS WITH
FULL FACEPIECE OPERATED IN THE PRESSURE DEMAND OR OTHER POSITIVE
PRESSURE MODE.

Unusual Fire/Explosion Hazard:REACTS EXPLOSIVELY WITH COMBUSTIBLE

ORGANIC OR READILY OXIDIZABLE MATERIALS SUCH AS: ALCOHOLS,

TURPENTINE, CHARCOAL, ORGANIC REFUSE, METAL POWDER, HYDROGEN

SULFIDE, ETC. REACTS WITH MOST METALS TO RELEASE HYDROGEN GAS

WHICH CAN FORM EXPLOSIVE MIXTURES WITH AIR.

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

Spill Release Procedures:VENTILATE AREA OF LEAK OR SPILL. WEAR

APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT. KEEP UNNECESSARY &

UNPROTECTED PERSONNEL FROM ENTERING. CONTAIN & RECOVER LIQUID WHEN

POSSIBLE. NEUTRALIZE WITH ALKALINE MATERIAL THEN ABSORB WITH AN

INERT MATERIAL & PLACE IN A CHEMICAL WASTE CONTAINER. DO NOT USE

COMBUSTIBLE MATERIALS,SUCH AS SAW DUST. DO NOT FLUSH TO SEWER.

Neutralizing Agent:SODA

ASH, LIME.

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

Handling and Storage Precautions:STORE IN A COOL, DRY, VENTILATED

STORAGE AREA WITH ACID RESISTANT FLOORS & GOOD DRAINAGE. PROTECT

FROM PHYSICAL DAMAGE. KEEP OUT OF DIRECT SUNLIGHT & AWAY FROM HEAT,

WATER & INCOMPATIBLE MATERIALS. DO NOT WASH OUT CONTAINER & USE IT

FOR OTHER PURPOSES.

Other Precautions:WHEN DILUTING, THE ACID SHOULD ALWAYS BE ADDED SLOWLY

TO WATER & IN SMALL AMOUNTS. NEVER USE HO

DO NOT ADD WATER & NEVER ADD WATER
TO THE ACID. CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN
EMPTY SINCE THEY RETAIN PRODUCT RESIDUES. OBSERVE ALL WARNINGS &
PRECAUTIONS.

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

Respiratory Protection: NIOSH APPROVED: WEAR A SUPPLIED AIR,
FULL-FACEPIECE RESPIRATOR, AIRLINED HOOD, OR FULL-FACEPIECE
SELF-CONTAINED BREATHING APPARATUS. NITRIC ACID IS AN OXIDIZER AND
SHOULD NOT COME IN CONTACT WITH CARTRIDGES AND CANNISTERS THAT

CONTAIN OXIDIZABLE MATERIALS, SUCH AS ACTIVATED CHARCOAL.
CANNISTER-TYPE RESPIRATORS USING SORBENTS ARE INEFFECTIVE.

Ventilation: LOCAL/GENERAL EXHAUST IS RECOMMENDED TO KEEP EMPLOYEE
EXPOSURE BELOW THE AIRBORNE EXPOSURE LIMITS. LOCAL EXHAUST
VENTILATION IS PREFERRED. GENERALLY PREFERRED.

Protective Gloves: WEAR IMPERVIOUS GLOVES.

Eye Protection: CHEMICAL SAFETY GOGGLES AND/OR FULL FACE SHIELD WHERE
SPLASHING IS POSSIBLE.

Other Protective Equipment: WEAR IMPERVIOUS PRO
TECTIVE CLOTHING,

INCLUDING BOOTS, LAB COAT, APRON OR COVERALLS, AS APPROPRIATE TO
PREVENT SKIN CONTACT. MAINTAIN EYE WASH FOUNTAIN AND QUICK-DRENCH
FACILITIES IN WORK AREA.

Supplemental Safety and Health

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

HCC: C1

Boiling Pt: =122.C, 251.6F

Melt/Freeze Pt: =-42.C, -43.6F

Vapor Pres: 48 @20C

Spec Gravity: 1.41

pH: 1.0 (0.1M SOLUT

Solubility in Water: INFINATELY SOLUBLE.

Appearance and Odor: COLORLESS TO YELLOWISH LIQUID. SU
FFOCATING ODOR.

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

Stability Indicator/Materials to Avoid: YES

A DANGEROUSLY POWERFUL OXIDIZING AGENT, FUMING NITRIC ACID IS
INCOMPATIBLE WITH MOST SUBSTANCES, ESPECIALLY STRONG BASES,
METALLIC POWDERS, CARBIDES, HYDROGEN SULFIDE, TURPENTINE, AND
COMBUSTIBLE ORGANICS.

Stability Condition to Avoid: LIGHT AND HEAT. STABLE UNDER ORDINARY
CONDITIONS OF USE AND STORAGE. CONTAINERS MAY BURST WHEN HEATED.

Hazardous Decompo

sition Products:WHEN HEATED TO DECOMPOSITION, EMITS
TOXIC NITROGEN OXIDES FUMES AND HYDROGEN NITRATE. WILL REACT WITH
WATER OR STEAM TO PRODUCE HEAT AND TOXIC AND CORROSIVE FUMES.
Conditions to Avoid Polymerization:WILL NOT OCCUR.

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

Toxicological Information:FOR NITRIC ACID: ORAL, HUMAN LDLO: 430 MG/KG.
INHALATION, RAT LC50: 67 PPM (NO2)/4H. INVESTIGATED AS A MUTAGEN &
REPRODUCTIVE EFFECTOR.

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Ecological Information =====

Ecological:ENVIRONEMNTAL FATE: NO INFORMATION FOUND. ENVIRONMENTAL
TOXICITY: NO INFORMATION FOUND.

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

Waste Disposal Methods:WHATEVER CANNOT BE SAVED FOR RECOVERY OR
RECYCLING SHOULD BE MANAGED IN AN APPROPRIATE & APPROVED WASTE
FACILITY. STATE & LOCAL DISPOSAL REGULATIONS MAY DIFFER FROM
FEDERAL DISPOSAL REGULATIONS. DISPOS E OF CONTAINER & UNUSED
CONTENTS IN AC
CORDANCE WITH FEDERAL, STATE & LOCAL REQUIREMENTS.

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

Transport Information:DOMESTIC, LAND, DOT: PROPER SHIPPING NAME: NITRIC
ACID (WITH NOT MORE THAN 70% NITRIC ACID). HAZARD CLASS: 8. UN:
UN2031. PACKING GROUP: II. AIR, I.C.A.O., PROPER SHIPPING NAME:
NITRIC ACID. HAZARD CL ASS: 8. UN: UN2031. PACKING GROUP: I.

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

SARA Title III Information:SECTION
302: RQ/TPQ=1000 LBS. SECTION 313:
LISTED-YES; CHEMICAL CATEGORY-NO. SECTIONS 311/312: ACUTE-YES;
CHRONIC-YES; FIRE-YES; PRESSURE-NO; REACTIVITY-YES.
Federal Regulatory Information:LISTED ON TSCA CHEMICAL INVENTORY.
CERCLA: 1000 LBS. RCRA 261.33: NO; TSCA 8 (D): NO. CHEMICAL WEAPONS
CONVENTION: NO. TSCA 12 (B): NO. CDTA: NO.

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

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ion is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever, expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.