

VAN WATERS AND ROGERS -- AMMONIUM HYDROXIDE -- 6810-00-243-4436

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

Product ID:AMMONIUM HYDROXIDE

MSDS Date:09/01/1993

FSC:6810

NIIN:00-243-4436

MSDS Number: BHJZZ

=== Responsible Party ===

Company Name:VAN WATERS AND ROGERS

Address:2256 JUNCTION AVE

City:SAN JOSE

State:CA

ZIP:95131

Country:US

Info Phone Num:408-435-8700

Emergency Phone Num:408-435-8700/800-424-930

0(CHEMTREC)

CAGE:0AN91

=== Contractor Identification ===

Company Name:CHEMICAL COMMODITIES AGENCY, INC.

Address:27447 PACIFIC STREET

Box:City:HIGHLAND

State:CA

ZIP:92346-2640

Country:US

Phone:909-864-2310

CAGE:60777

Company Name:VAN WATERS AND ROGERS

Address:2256 JUNCTION AVE

City:SAN JOSE

State:CA

ZIP:95131

Country:US

Phone:408-435-8700/800-424-9300(CHEMTREC)

CAGE:0AN91

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

Ingred Name:AMMONIA (SARA III)

CAS:7664-41-7

RTECS #:B

O0875000

Fraction by Wt: 28-30%

Other REC Limits:NONE RECOMMENDED

OSHA PEL:35 PPM STEL

ACGIH TLV:25 PPM/35 STEL; 9293

EPA Rpt Qty:100 LBS

DOT Rpt Qty:100 LBS

Ingred Name:WATER

CAS:7732-18-5

RTECS #:ZC0110000

Fraction by Wt: BALANCE

Other REC Limits:NONE RECOMMENDED

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

LD50 LC50 Mixture:LD50 (ORAL RAT) IS 350 MG/KG

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health

h Hazards Acute and Chronic:ACUTE: EXTREME IRRITATION AND

DESTRUCTION OF TISSUE ON EXPOSED PARTS OF THE BODY. MAY CAUSE PERMANENT EYE INJURY AND BLINDNESS. EXTENSIVE SKIN BURNS MAY CAUSE DEATH. SEVERE COUGHING, BRONCHIAL SPASMS AND DEATH CAN OCCUR.

INGESTION OF A TEASPOONFUL CAN CAUSE DEATH. CHRONIC: NONE REPORTED.

Effects of Overexposure:EYES: SEVERE IRRITATION, BLINDNESS. SKIN:

SEVERE IRRITATION, POSSIBLE CHEMICAL BURNS AND POSSIBLE TISSUE DAMAGE. MAY BE FATAL. INHALATION:

SEVERE IRRITATION OF NOSE AND

THROAT, SEVERE COUGHING AND BRONCHIAL SPASMS. MAY BE FATAL.

INGESTION:SEVERE GASTROINTESTINAL IRRITATION. MAY BE FATAL.

Medical Cond Aggravated by Exposure:PERSONS WITH PRE-EXISTING EYE OR PULMONARY DISEASE.

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

First Aid:EYES: FLUSH WITH LARGE AMOUNTS OF WATER FOR 30 MINUTES. SEE DOCTOR. SKIN: REMOVE CONTAMINATED CLOTHING AND SHOES. FLUSH WITH LARGE AMOUNTS OF WATER FOR 30

MINUTES. SEEK IMMEDIATE MEDICAL

ATTENTION. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE

CPR. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEE DOCTOR. INGESTION:

DO NOT INDUCE VOMITING. DILUTE WITH WATER. SEE DOCTOR IMMEDIATELY.

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

Flash Point:NONE

Lower Limits:16

Upper Limits:25

Extinguishing Media:USE WATER SPRAY, CARBON DIOXIDE, OR DRY CHEMICAL.

Fire Fighting Procedures:EVACUATE PERSONNEL. WEAR FIRE FIGHTING

PROTECTIVE EQUIPMENT AND A FULL FACED SCBA. COOL FIRE EXPOSED CONTAINERS WITH WATER SPRAY FROM A FAR DISTANCE.

Unusual Fire/Explosion Hazard:FLAMMABLE AMMONIA GAS WILL BE LIBERATED AND CAN BE EXPLOSIVE UNDER SOME CONDITIONS. THIS PRODUCT ADDED TO MINERAL ACIDS WILL CAUSE INSTANT BOILING AND EXPLOSION

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

Spill Release Procedures:WEAR PROTECTIVE CLOTHING, RESPIRATOR, SAFETY GLASSES, RUBBER GLOVES AND BOOTS. MOP OR WIPE UP AND PLACE INTO DOT APPROVED DISPOSAL CONTAINER.

Neutralizing Agent:DILUTE HYDROCHLORIC ACID FOR LARGE SPILLS.

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

Handling and Storage Precautions:STORE IN COOL, WELL VENTILATED AREA, AWAY FROM ALL SOURCES OF IGNITION AND INCOMPATIBLE MATERIALS. KEEP CONTAINERS TIGHTLY CLOSED.

Other Precautions:ZINC, COPPER, AND COPPER BASED ALLOYS SUCH AS BRASS ARE RAPIDLY CORRODED BY MOIST AMMONIA. AVOID USE OF THESE METALS IN AMMONIA SERVICE. USE ALL STEEL STORAGE AND HANDLING EQUIPMENT. VENT CONTAINER FREQUENTLY, MORE OFTEN IN WARM WEATHER.

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

Respiratory Protection:NIOSH AND US BUREAU OF MINES APPROVED RESPIRATORS FOR AMMONIA. NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS MUST BE USED WHEN EXPOSURE LIMITS ARE EXCEEDED.

Ventilation:LOCAL EXHAUST PREFERABLE. INSURE WORK AREA DOES NOT EXCEED 25 PPM.

Protective Gloves:
RUBBER OR NEOPRENE.

Eye Protection:CHEMICAL SPLASH GOGGLES.

Other Protective Equipment:RUBBER BOOTS AND APRON. EYE WASH STATION AND SAFETY SHOWER.

Work Hygienic Practices:WASH THOROUGHLY AFTER HANDLING AND BEFORE SMOKING OR EATING.LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

Supplemental Safety and Health

PIPELINES MUST BE THOROUGHLY FLUSHED OF AMMONIA BEFORE WELDING OR CUTTING TO AVOID POSSIBLE IGNITION OF TRAPPED AMMONIA VAPORS. DO NOT GRIND, WELD, OR DRILL ON OR NEAR THIS CONTAINER

INNER. EMPTY

CONTAINERS RETAIN RESIDUE AND VAPORS. TREAT AS IF THEY WERE FULL.
DO NOT PRESSURIZED TO EMPTY CONTAINERS.

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

HCC:B1

Boiling Pt:B.P. Text:82-105F

Melt/Freeze Pt:M.P/F.P Text:-97F,-72C

Vapor Pres:560

Vapor Density:0.60

Spec Gravity:0.90-0.913

pH:11-13

Evaporation Rate & Reference:1 (BUTYL ACETATE = 1)

Solubility in Water:COMPLETE

Appearance and Odor:COLORLESS LIQUID WITH PUNGENT IRRITATING ODOR.

Percent Vola

tiles by Volume:28-30

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

Stability Indicator/Materials to Avoid:YES

ACIDS, OXIDIZERS, COPPER, ALUMINUM, ZINC, GALVANIZED METALS, GOLD,
SILVER, ALLOYS OF THESE METALS.

Stability Condition to Avoid:LIQUID WILL NOT BURN, BUT VAPORS MAY
IGNITE. AVOID EXPOSURE OF VAPORS TO IGNITION SOURCES.

Hazardous Decomposition Products:AMMONIA GAS AND OXIDES OF NITROGEN.

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

Waste Disposal Methods:CONTACT YOUR LOCAL ENVIRONMENTAL OFFICER.
DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND
LOCAL REGULATIONS.

Disclaimer (provided with this information by the compiling agencies):

This information 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.