

VAN WATERS AND ROGERS INC -- AMMONIUM CHLORIDE -- 6810-00-281-2033

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

Product ID:AMMONIUM CHLORIDE

MSDS Date:02/17/1999

FSC:6810

NIIN:00-281-2033

Status Code:A

MSDS Number: CKWNF

=== Responsible Party ===

Company Name:VAN WATERS AND ROGERS INC

Address:6100 CARILLON POINT

City:KIRKLAND

State:WA

ZIP:98033-7357

Country:US

Info Phone Num:425-889-3400/425-889-3617

Emerge

ncy Phone Num:(800)424-9300

Resp. Party Other MSDS Num.:MZA5724

Chemtec Ind/Phone:(800)424-9300

CAGE:0STM5

=== Contractor Identification ===

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

Company Name:VOPAK USA INC

Address:6100 CARILLON POINT

Box:City:KIRKLAND

State:WA

ZIP:98033-7357

Country:US

Phone:425-889-3400/425-889-3617

CAGE:0STM5

=====  
Composition/Information on Ingred

ients =====

Ingred Name:AMMONIUM CHLORIDE

CAS:12125-02-9

RTECS #:BP4550000

Minumum % Wt:99.

Maxumum % Wt:100.

ACGIH TLV:10 MG/M3

ACGIH STEL:20 MG/M3

EPA Rpt Qty:5000 LBS

DOT Rpt Qty:5000 LBS

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

LD50 LC50 Mixture:ORAL, RAT LD50 1650 MG/KG

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

Health Hazards Acute and Chronic:INHALATION: CAUSES IRRITATION TO THE  
RESPIRATORY TRACT. SYMPTOMS MAY INCLUDE COUGHING, SHO  
RTNESS OF

BREATH. INGESTION: CUSES IRRITATION TO THE GASTROINTESTINAL TRACT.  
SYMPTOMS MAY INCLUDE NAUSEA, VOMI TING AND DIARRHEA. SKIN CONTACT:  
CAUSES IRRITATION TO SKIN. SYMPTOMS INCLUDE REDNESS, ITCHING, AND  
PAIN. EYE CONTACT: CAUSES IRRITATION, REDNESS, AND PAIN. CHRONIC  
EXPOSURE: NO INFORMATION FOUND.

Explanation of Carcinogenicity:NO DATA PROVIDED BY MANUFACTURER

Effects of Overexposure:INHALATION: CAUSES IRRITATION TO THE  
RESPIRATORY TRACT. SYMPTOMS MAY INCLUDE COUG  
HING, SHORTNESS OF

BREATH. INGESTION: CUSES IRRITATION TO THE GASTROINTESTINAL TRACT.  
SYMPTOMS MAY INCLUDE NAUSEA, VOMI TING AND DIARRHEA. SKIN CONTACT:  
CAUSES IRRITATION TO SKIN. SYMPTOMS INCLUDE REDNESS, ITCHING, AND  
PAIN. EYE CONTACT: CAUSES IRRITATION, REDNESS, AND PAIN.

Medical Cond Aggravated by Exposure:NO INFORMATION FOUND.

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

First Aid:INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE  
ARTIFICAL

RESPIRATION. IF BREATHING IS DIFFICULT GIVE OXYGEN, GET  
MEDICAL ATTENTION. INGESTION: INDUCE VOMITING IMMEDIATELY AS  
DIRECTED BY MEDIC AL PERSONNEL. NEVER GIVE ANYTHING BY MOUTH TO AN  
UNCONSCIOUS PERSON. GET MEDICAL ATTENTION. SKIN: IMMEDIATELY FLUSH  
SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. REMOVE  
CONTAMINATED CLOTHING AND SHOES. GET MEDICAL ATTENTION. WASH  
CLOTHING BEFORE REUSE, THOROUGHLY CLEAN SHOES BEFORE REUSE. EYE:  
IMMEDIATELY FLUSH EYES WITH PLENTY

OF WATER FOR AT LEAST 15  
MINUTES, LIFTING UPPER AND LOWER EYELIDS OCCASIONALLY.

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

Extinguishing Media:USE ANY MEANS SUITABLE FOR EXTINGUISHING  
SURROUNDING FIRE. WATER SPRAY MAY BE USED TO KEEP FIRE EXPOSED  
CONTAINERS COOL.

Fire Fighting Procedures:IN THE EVENT OF A FIRE, WEAR FULL PROTECTIVE  
CLOTHING AND NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS WITH  
FULL FACEPIECE OPERATED IN THE PRESSURE DEMAND OR  
OTHER POSITIVE  
PRESSURE MODE.

Unusual Fire/Explosion Hazard:NOT CONSIDERED TO BE AN EXPLOSION HAZARD.  
AT FIRE TEMPERATURES AMMONIUM CHLORIDE BEGINS TO CORRODE METALS AND  
MAY DISSOCIATE INTO AMMONIA AND HYDROGEN CHLORIDE. MIXTURES OF  
ABOUT 16% TO 25% (BY VOLUME ) AMMONIA GAS IN AIR ARE FLAMMABLE.

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

Spill Release Procedures:VENTILATE AREA OF LEAK OR SPILL. WEAR  
APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT AS SPEC  
IFIED IN PERSONAL  
PROTECTION. SPILLS: SWEEP UP AND CANTAINERIZE FOR RECLAMATION OR  
DISPOSAL. VACUUMING OR WET SWE EPING MAY BE USED TO AVOID DUST  
DISPERSAL. USE REGULATIONS (CERCLA) REQUIRE REPORTING SPILLS AND  
RELEASES TO SOIL, WATER, AND AIR IN EXCESS OF REPORTABLE  
QUANTITIES.

Neutralizing Agent:NO DATA PROVIDED BY MANUFACTURER.

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

Handling and Storage Precautions:KEEP IN A TIGHTLY CLOSED CONTAINER,  
PROT  
ECT FROM PHYSICIAL DAMAGE STORE IN A COOL DRY, VENTILATED AREA  
AWAY FROM SOURCES OF HEAT, MOISTURE AND INCOMPATIBILITIES.

Other Precautions:CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN  
EMPTY SINCE THEY RETAIN PRODUCT RESIDUES CONST, SOLIDS. OBSERVE  
ALL WARNINGS AND PRECAUTIONS LISTED FOR THE PRODUCT.

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

Respiratory Protection:IF THE EXPOSURE LIMIT IS EXCEEDED, A HALF-FACE  
DUST/MIST RESPIRATOR MAY BE WORN FOR

UP TO TEN TIMES THE EXPOSURE

LIMIT OR THE MAXIMUM USE CONCENTRATION SPECIFIED BY THE APPROPRIATE REGULATORY AGENCY OR RESPIRATOR SUPPLIER, WHICHEVER IS LOWEST. FOR EMERGENCIES OR INSTANCES WHERE THE EXPOSURE LEVELS ARE NOT KNOWN, (SEE SUPPLEMENTAL)

Ventilation: A SYSTEM OF LOCAL AND/OR GENERAL EXHAUST IS RECOMMENDED TO KEEP EMPLOYEE EXPOSURES BELOW THE AIRBORNE EXPOSURE LIMITS.

Protective Gloves: IMPERVIOUS

Eye Protection: CHEMICAL SAFETY GOGGLES AND/OR FULL FACE SHIELD.

Other

Protective Equipment: WEAR IMPERVIOUS PROTECTIVE CLOTHING, INCLUDING BOOTS, GLOVES, LAB COAT, APRON OR COVERALLS AS APPROPRIATE TO PREVENT SKIN CONTACT.

Work Hygienic Practices: NO DATA PROVIDED BY MANUFACTURER.

Supplemental Safety and Health

USE A FULL-FACEPIECE POSITIVE-PRESSURE, AIR-SUPPLIED RESPIRATOR.

WARNING: AIR-PURIFYING RESPIRATORS DO NOT PROTECT WORKERS IN OXYGEN-DEFICIENT ATMOSPHERES.

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

HCC: N1

Boiling P

t: =520.C, 968.F

Melt/Freeze Pt: =338.C, 640.4F

Vapor Pres: 1.0@160C

Vapor Density: 1.9

pH: 5.0 - 5.5

Evaporation Rate & Reference: NO INFO (BUAC 1)

Solubility in Water: 29.7G/100G WATER@0C

Appearance and Odor: WHITE POWDER, ODORLESS

Percent Volatiles by Volume: 0

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

Stability Indicator/Materials to Avoid: YES

CONCENTRATED ACIDS, STRONG BASES, SILVER SALTS, POTASSIUM CHLORATE, AMMONIUM NITRATE, BROMINE TRIFLUORIDE AND IODINE HEPTAFLUORIDE.

AMMONIUM CHLORIDE REACTS EXPLOSIVELY WITH POTASSIUM CHLORATE OR BROMINE TRIFLUORIDE, AND VI

Stability Condition to Avoid: HEAT, MOISTURE, INCOMPATIBLES.

Hazardous Decomposition Products: INVOLVEMENT IN A FIRE CAUSES DECOMPOSITION TO FORM HYDROGEN CHLORIDE AND AMMONIA.

Conditions to Avoid Polymerization: WILL NOT OCCUR.

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

Toxicological Information: ORAL, RAT LD50 : 1650 MG/KG. INVESTIGATED AS A MUTAGEN.

=====

==== Ecological Information =====

Ecological:ENVIRONMENTAL 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 AND APPROVED WASTE DISPOSAL FACILITY. PROCESSING, USE OR CONTAMINATION OF THIS PRODUCT MAY CHANGE THE WASTE MANAG EMENT OPTIONS. STATE AND LO CAL DISPOSAL REGULATIONS MAY DIFFER FROM FEDERAL DISPOSAL REGULATIONS.

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

Transport Information:NOT REGULATED.

==== Regulatory Information =====

SARA Title III Information:SARA 302 RQ/TPQ: NO. SARA 313 LISTED: NO. SARA 311/312: ACUTE: YES, CHRONIC: NO, FIRE: NO, PRESSURE: NO, REACTIVITY: NO.  
Federal Regulatory Information:TSCA LISTED: YES. CERCLA RQ: 5000 LBS. TSCA 12(B): NO.  
CDTA: NO. CHEMICAL WEAPONS CONVENTION: NO. RCRA 261.33: NO; TSCA 8(D): NO.  
State Regulatory Information:NO DATA PROVIDED BY MANUFACTURER.

==== Other Information =====

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.