SECTION I -- GENERAL INFORMATION

Chemical Name & Synonyms: N/A
Trade Name & Synonyms: CHEM-AQUA 84R

Chemical Family: AQUEOUS AMINE SOLUTION
Formula Mixture --> X

Manufacturer's Name: CHEMAQUA, INC

Address: BOX 152170
IRVING, TEXAS 75015

Prepared By: C Williamson/Chemist
Product Code Number: 859C
Emergency Phone Number: 800-424-9300

SECTION II -- HAZARDOUS INGREDIENTS

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS

<table>
<thead>
<tr>
<th>Chemical Name (Ingredients)</th>
<th>Hazard</th>
<th>TLV</th>
<th>PEL</th>
<th>STEL</th>
<th>CAS #</th>
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<tbody>
<tr>
<td>MORPHOLINE</td>
<td>*</td>
<td>20 PPM</td>
<td>$1</td>
<td>20 PPM</td>
<td>N/E</td>
</tr>
<tr>
<td>CYCLOHEXYLAMINE</td>
<td>**</td>
<td>10 PPM</td>
<td>1</td>
<td>N/E</td>
<td>2</td>
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<tr>
<td>*   CORROSIVE/COMBUSTIBLE/TOXIC</td>
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<tr>
<td>** CORROSIVE/COMBUSTIBLE/TOXIC/SENSITIZER</td>
<td></td>
<td></td>
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<tr>
<td>$   SKIN NOTATION</td>
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</table>

SECTION III -- PHYSICAL DATA

Boiling Point (F): 219°
Specific Gravity (H20=1): 1.0

Vapor Pressure (MM HG): 11.74
Color: COLORLESS-LT YELLOW

Vapor Density (Air=1): 0.6
Odor: FISHY/AMMONIA

PH @ 100% : 12.7
Clarity: TRANSPARENT

% Volatile by Volume: 100
Evaporation, Rat, (BU A/C=1): 0.61

H2O Solubility: COMPLETE
Viscosity: NON-VISCOUS

SECTION IV -- FIRE AND EXPLOSION HAZARD

Flash Point 145°F / SETAFLASH
MORPHOLINE 1.8 10.8

Extinguishing Media
<--Foam X <--Alcohol Foam X <--CO2 X <--Dry Chemical X <--Water Spray X <--Other

Special Fire Fighting Procedures:
FIREFIGHTERS SHOULD WEAR A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR.
COOL FIRE-EXPOSED CONTAINERS WITH WATER SPRAY TO PREVENT BURSTING.

Unusual Fire and Explosion Hazards:
USE CARE AS SPILLS MAY BE SLIPPERY.
MATERIAL SAFETY DATA SHEET: CHEM-AQUA 84R

SECTION V -- HEALTH HAZARD DATA

Threshold Limit Value:
NOT ESTABLISHED FOR MIXTURE. SEE SECTION II.

Effects of Overexposure:

-Acute (Short Term Exposure)
EYE CONTACT: CORROSIVE. CAUSES BURNS, CORNEAL DAMAGE AND POSSIBLE BLINDNESS.
INGESTION: CORROSIVE. CAUSES BURNS TO THE MOUTH, THROAT, ESOPHAGUS AND STOMACH WITH ABDOMINAL AND CHEST PAIN, NAUSEA, VOMITING, DIARRHEA, THIRST, WEAKNESS, DIZZINESS, DROWSINESS, FAINTNESS, COLLAPSE, COMA AND MAY BE FATAL. INGESTION AND SUBSEQUENT VOMITING OF THIS PRODUCT CAN LEAD TO ASPIRATION OF THE PRODUCT INTO THE LUNGS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL.
INHALATION: CAUSES COUGHING, SNEEZING, DISCOMFORT OR PAIN IN THE NOSE, THROAT AND CHEST, NASAL DISCHARGE AND BREATHING DIFFICULTIES. PROLONGED OR REPEATED EXPOSURE CAN CAUSE LUNG DAMAGE.
SKIN CONTACT: CORROSIVE. CAUSES BURNS AND POSSIBLE DEEP ULCERATIONS OR SCARRING, REDNESS, SWELLING AND TISSUE. DESTRUCTION. PRODUCT MAY BE ABSORBED THROUGH SKIN IN HARMFUL AMOUNTS. MAY CAUSE ALLERGIC SKIN REACTION.

-Chronic (Long Term Exposure)
MAY CAUSE SKIN SENSITIZATION IN SOME INDIVIDUALS. TARGET ORGANS: BLOOD-FORMING ORGANS, MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE ARE PRE-EXISTING RESPIRATORY AND SKIN CONDITIONS SUCH AS ASTHMA, EMPHYSEMA AND DERMATITIS.

Primary Routes of Entry: Inhalation, Ingestion, Absorption

Emergency and First Aid Procedures:
REMOVE FROM THE AREA TO FRESH AIR. IF NOT BREATHING, CLEAR THE AIRWAY AND START MOUTH TO MOUTH ARTIFICIAL RESPIRATION. GET IMMEDIATE MEDICAL ATTENTION.

-Eye Contact:
IMMEDIATELY RINSE THE EYES WITH WATER. REMOVE ANY CONTACT LENSES AND CONTINUE FLUSHING FOR AT LEAST 15 MINUTES. HOLD THE EYELIDS APART TO ENSURE RINSING OF THE ENTIRE SURFACE OF THE EYES AND LIDS WITH WATER. GET IMMEDIATE MEDICAL ATTENTION.

-Skin Contact:
WASH AFFECTED AREAS WITH LARGE AMOUNTS OF SOAP AND WATER FOR 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. GET IMMEDIATE MEDICAL ATTENTION. WASH CLOTHING AND CLEAN SHOES BEFORE REUSE.

-Ingestion:
GIVE 3 TO 4 GLASSES OF WATER, BUT DO NOT INDUCE VOMITING. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

-Notes to Physician:
INGESTION AND SUBSEQUENT VOMITING OF THIS PRODUCT CAN LEAD TO ASPIRATION OF THE PRODUCT INTO THE LUNGS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL. DEPENDING ON THE AMOUNT INgested AND RETAINED AS WELL AS THE TOXICITY OF THE PRODUCT, GASTRIC LAVAGE SHOULD BE CONSIDERED. KEEP PATIENT'S HEAD BELOW HIPS TO PREVENT PULMONARY ASPIRATION. IF COMATOSE, A CUFFED ENDOTRACHAEL TUBE WILL PREVENT ASPIRATION.

SECTION VI -- TOXICITY INFORMATION
MATERIAL SAFETY DATA SHEET: CHEM-AQUA 84R

Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:
IARC--> No  NTP--> No  OSHA--> Yes  ACGIH--> No  OTHER--> No

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MORPHOLINE
SKN-RBT-LD50: 500 MG/KG  3.
ORL-RAT-LD50: 1050 MG/KG  3.
IHL-RAT-LC50: 8000 MG/KG  3.
EYE-RBT SOT: 2 MG SEVERE  3.
SKN-RBT SDT: 995 MG/24H SEVERE  3.
IHM-MUS LC50: 1320 MG/M3/2H  3.

PROLONGED AND REPEATED CONTACT TO VAPORS CAUSES OCULAR, NASAL AND SKIN IRRITATION IN LABORATORY ANIMALS. PROLONGED AND REPEATED INHALATION OF VAPORS DID NOT CAUSE CANCER OR ORGAN DAMAGE IN RATS EXPOSED FOR UP TO 2 YEARS.  4.

CYCLOHEXYLAMINE
SKN-HMN SDT: 125 MG/48H SEVERE  3.
EYE-RBT SOT: 50 uG/24H SEVERE  3.
ORL-RAT LD50: 11 MG/KG  3.
ORL-MOUSE L050: 224 MG/KG 3.
IHL-RAT LC50: 7500 MG/M3  3.

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SECTION VII -- REACTIVITY DATA

Stability  X <--Stable  <--Unstable
Conditions to Avoid:
AVOID STORAGE NEAR HEAT, HOT SURFACES, SPARKS AND OPEN FLAMES.

Incompatibility (Materials to Avoid):
STRONG OXIDIZERS SUCH AS CHLORINE BLEACH/HYDROGEN PEROXIDE. ACIDS, CATALIZED SULFITES; NITRITES; STEEL AND SOFT METALS SUCH AS ALUMINUM AND COPPER; PLASTIC, RUBBER AND COATINGS.

Hazardous Decomposition Products:
OXIDES OF CARBON AND NITROGEN.

Hazardous Polymerization:  <--May Occur  X <--Will Not Occur
Conditions to Avoid:
NONE KNOWN.

SECTION VIII -- SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled:
ELIMINATE ALL SOURCES OF IGNITION. WEAR APPROPRIATE PROTECTIVE CLOTHING. USE CARE AS SPILLS MAY BE SLIPPERY. VENTILATE THE AREA. DIKE AND CONTAIN SPILL. ABSORB WITH AN INERT MATERIAL AND TRANSFER ALL MATERIAL INTO A PROPERLY LABELED CONTAINER FOR DISPOSAL. PREVENT PRODUCT FROM CONTAMINATING SOIL OR FROM ENTERING SEWAGE AND DRAINAGE SYSTEMS AND BODIES OF WATER. FLUSH AREA WITH WATER.

Waste Disposal Method(s):
DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

Neutralizing Agent:
USE DILUTE ACIDS SUCH AS HYDROCHLORIC ACID OR VINEGAR. ADD CAUTIOUSLY WHILE MIXING. WEAR APPROPRIATE PROTECTIVE CLOTHING.
SECTION IX -- SPECIAL PROTECTION INFORMATION

Required Ventilation:
LOCAL VENTILATION IS RECOMMENDED TO CONTROL EXPOSURE FROM OPERATIONS THAT CAN GENERATE MISTS OR VAPORS.

Respiratory Protection:
A NIOSH/MSHA APPROVED RESPIRATOR IN POORLY VENTILATED AREAS AND/OR FOR EXPOSURE ABOVE THE ACGIH TLV OR OSHA PEL OR WHERE MISTING EXISTS.

Glove Protection:
NEOPRENE OR NITRILE RUBBER GLOVES SHOULD BE WORN.

Eye Protection:
CHEMICAL GOGGLES AND A FACE SHIELD SHOULD BE WORN.

Other Protection:
SAFETY SHOWER AND EYE WASH SHOULD BE AVAILABLE. WEAR PROTECTIVE CLOTHING WHEN HANDLING.

SECTION X -- STORAGE AND HANDLING INFORMATION

Storage Temperature: Indoors--> X Outdoors--> Heated--> Refrigerated-->
Minimum Temperature: 35°F Maximum Temperature: 120°F

Precautions to be Taken in Handling and Storing:
ALWAYS STORE MATERIAL IN ITS ORIGINAL CONTAINER. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT STORE NEAR HEAT, HOT SURFACES, SPARKS OR OPEN FLAME. KEEP FROM FREEZING. IF PRODUCT FREEZES ALLOW IT TO SLOWLY WARM TO ROOM TEMPERATURE AND STIR THOROUGHLY BEFORE USING. DO NOT STORE IN UNLINED STEEL CONTAINERS OR TANKS. USE WITH CAUTION AROUND HEAT, SPARKS, PILOT LIGHTS, STATIC ELECTRICITY AND OPEN FLAME. EMPTY CONTAINERS RETAIN PRODUCT RESIDUES. DO NOT PRESSURIZE, CUT, WELD, SOLDER, DRILL, GRIND OR EXPOSE EMPTY CONTAINERS TO HEAT, HOT SURFACES, SPARKS OR OPEN FLAMES. GROUND AND BOND CONTAINER WHEN HANDLING NEAR FLAMMABLE VAPORS AND ALL SOURCES OF IGNITION.

Other Precautions:
KEEP OUT OF REACH OF CHILDREN. READ THE ENTIRE LABEL BEFORE USING THE PRODUCT. FOLLOW THE LABEL DIRECTIONS. DO NOT ADD ANY MATERIALS CONTAINING NITRITES, SUCH AS SODIUM NITRITE OR POTASSIUM NITRITE TO THE RESERVOIR OR SUMP. TO DO SO CAN PRODUCE NITROSAMINES THAT MAY CAUSE CANCER IN HUMANS.

SECTION XI -- REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Upper % Limit</th>
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<tbody>
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<td>None</td>
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Those ingredients listed above are subject to the reporting requirements of 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Please call 1-800-527-9919 for additional information if you are a California customer.
This MSDS is not intended for users in the state of California.

SECTION XII -- REFERENCES

2. OSHA PEI.
VENDOR'S MSDS.

ALL COMPONENTS IN THIS PRODUCT CAN BE FOUND IN THE CURRENT TSCA INVENTORY.

-----------------------------------------IRR: IRRITANT, FLAM/FLAMM: FLAMMABLE, COMB: COMBUSTIBLE,
CORR: CORROSIVE CARC: CARCINOGENIC, TOX: TOXIC, N/A: NOT APPLICABLE, N/E: NOT ESTABLISHED,
COC: CLEVELAND OPEN CUP, PMCC: PENSKY-MARTIN CLOSED CUP, TCC: TAGLLEABUE CLOSED CUP, LEL: LOWER
EXPLOSION LIMIT, UEL: UPPER EXPLOSION LIMIT, NEPA: NATIONAL FIRE PROTECTION ASSOCIATION,
IARC: INTERNATIONAL AGENCY FOR THE RESEARCH ON CANCER, NTP: NATIONAL TOXICOLOGY PROGRAM,
OSHA: OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, ACGIH: AMERICAN CONFERENCE OF
GOVERNMENTAL INDUSTRIAL HYGIENISTS, TLV: THRESHOLD LIMIT VALUE, PEL: PERMISSIBLE EXPOSURE
LIMIT, STEL: SHORT-TERM EXPOSURE LIMIT, MLD: MILD, MOD: MODERATE, SEV: SEVERE, MUT: MUTAGENIC,
ASPHYX: ASPHYXIANT, PNOS: PARTICULATES (INSOLUBLE) NOT OTHERWISE SPECIFIED, SDT: STANDARD
DRAIZE TEST, ORL: ORAL, HMN: HUMAN, IHL: INHALATION

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or disposal of the product.

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