

MATERIAL SAFETY DATA SHEET

ST1248

SECTION 1:

IDENTIFICATION

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| Company Name: | QUALICHEM TECHNOLOGIES |
| Address: | 885 WOODSTOCK RD, STE 430-111 ROSWELL, GA 30075 |
| Phone No. | (800) 658-7716 |
| Fax No. | (877) 209-1556 |
| Emergency Phone No. | CHEM-TEL 800-255-3924 |
| Date Prepared: | 4/24/07 |
| Date Revised: | 5/11/09 |

SECTION 2:

INGREDIENTS

MATERIAL
MORPHOLINE

| <u>CAS NO.</u> | <u>%</u> |
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| 110-91-8 | 30 - 50 |

SECTION 3:

HEALTH HAZARDS

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| Ingestion: | MAY BE TOXIC IN CONCENTRATED FORM. DO NOT TAKE INTERNALLY. DUE TO HIGH ALKALINITY, CAUSES SEVERE IRRITATION, POSSIBLE BURNS OF INTERNAL TISSUES. |
| Inhalation: | INHALATION HIGHLY IRRITATING TO RESPIRATORY TRACT. SEVERE INHALATION MAY PRODUCE CHEMICAL PNEUMONITIS, PULMONARY EDEMA AND DELAYED SCARRING OF THE AIRWAY OR OTHER AFFECTED ORGANS. |
| Skin Contact: | CONTACT CAUSES SEVERE IRRITATION AND POSSIBLE BURNS. |
| Eye Contact: | CAUSES SEVERE IRRITATION, POSSIBLE BURNS AND EYE DAMAGE. |
| Other Information: | OTHER THAN ACUTE EFFECTS LISTED ABOVE, NO LONG TERM EFFECTS KNOWN. |

SECTION 4:

FIRST AID

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| Ingestion: | DRINK SEVERAL GLASSES OF WATER TO DILUTE. DO NOT INDUCE VOMITING. GET IMMEDIATE MEDICAL ATTENTION. |
| Inhalation: | REMOVE VICTIM TO FRESH AIR. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. SUPPLEMENTAL OXYGEN SHOULD BE GIVEN IF AVAILABLE. GET MEDICAL ATTENTION. |
| Skin Contact: | WASH WITH PLAIN WATER OR SOAP AND WATER. IF BURNS OCCUR, COVER THE AFFECTED AREA WITH STERILE DRESSING OR CLEAN SHEETING AND GET MEDICAL ATTENTION. DO NOT APPLY GREASES OR OINTMENTS. |
| Eye Contact: | IMMEDIATELY FLUSH WITH CLEAR WATER FOR 15 MINUTES WHILE HOLDING EYELIDS APART. GET MEDICAL ATTENTION. |
| Notes to Physician: | THIS PRODUCT PRODUCES EFFECTS SIMILAR TO THOSE OF AMMONIA AND IS HIGHLY INJUROUS TO ALL TISSUES. TREAT SYMPTOMS WITH SUPPORTIVE MEASURES WHICH WILL BE SIMILAR TO THAT FOR THERMAL BURNS. |

SECTION 5:

FIRE AND EXPLOSION HAZARD DATA

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| Flash Point/Method: | CLOSED CUP >125°F |
| Upper/Lower Limit in Air: | N.D./N.D. |
| Extinguishing Media: | WATER OR ANY MEDIA SUITABLE FOR THE SURROUNDING FIRE. FIRE-FIGHTERS SHOULD WEAR NORMAL PROTECTIVE EQUIPMENT. SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED IN CONFINED AREAS. |
| Procedures: | |
| Unusual Hazards: | NONE |
| Combustion Products: | IF WATER IS EVAPORATED, OXIDES OF CARBON AND NITROGEN MAY BE PRODUCED. |

MATERIAL SAFETY DATA SHEET

ST1248

SECTION 6: ACCIDENTAL RELEASE MEASURES

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| Personal Precautions: Environmental Precautions: Procedures for Clean Up: Prohibited Materials: | WEAR PERSONAL PROTECTIVE EQUIPMENT AS RECOMMENDED IN SECTION 8. THIS PRODUCT HAS A MODERATE HAZARD POTENTIAL IF RELEASED INTO THE ENVIRONMENT ACCIDENTLY. AMINES ARE CHEMICALLY AND BIOLOGICALLY DEGRADABLE. SMALL SPILLS MAY BE FLUSHED WITH COPIOUS QUANTITIES OF WATER, PREFERABLY TO A SANITARY SEWER. LARGER SPILLS MAY BE DIKED TO MINIMIZE RUN-OFF AND NEUTRALIZED WITH DILUTE ACID. LIQUID MAY BE ABSORBED IN SAWDUST OR ANY AVAILABLE ABSORBANT AND SWEEPINGS DISPOSED OF IN A LANDFILL. OBEY ALL FEDERAL, STATE OR LOCAL REGULATIONS. NONE |
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SECTION 7: HANDLING AND STORAGE

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| Handling: Storage: | THIS PRODUCT IS A STRONG ALKALINE MATERIAL. WEAR INDICATED PROTECTIVE EQUIPMENT WHEN HANDLING THE UNDILUTED MATERIAL. KEEP OUT OF REACH OF CHILDREN. STORE IN A COOL, DRY PLACE AWAY FROM SOURCES OF IGNITION. KEEP CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE. |
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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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| Precautionary Measures: Engineering Controls: Control Limits: Equipment for Personal Protection: | STANDARD INDUSTRIAL HANDLING PRECAUTIONS. WASH THOROUGHLY AFTER HANDLING CHEMICALS. USE WITH ADEQUATE VENTILATION TO KEEP EXPOSURES BELOW OCCUPATIONAL EXPOSURE LIMITS. MORPHOLINE: OSHA (PEL) = 20 ppm (TWA); ACGIH (TLV) = 20 ppm (TWA) skin SAFETY GLASSES WITH SIDE SHIELDS OR CHEMICAL GOGGLES, IMPERMEABLE GLOVES, AND PROTECTIVE CLOTHING SHOULD BE WORN WHEN HANDLING THE CONCENTRATED PRODUCT. EYEWASH STATION IN AREA OF USE. |
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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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| Appearance: Odor: pH (undiluted): Specific Gravity: Density: Solubility in Water: Boiling Point: Percent Volatile: Vapor Pressure (mmHg): Vapor Density: Evaporation Rate: | CLEAR LIQUID TYPICAL AMINES <12.5 1.03-1.05 8.7 lbs./gal. COMPLETE >212°F 100 N.D. N.D. (water=1): ~1 |
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SECTION 10: STABILITY AND REACTIVITY

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| Stability: Conditions to Avoid: Hazardous Polymerization: Conditions to Avoid: Incompatibility: Hazardous Decomposition Products: | STABLE NONE STABLE NONE REACTS VIOLENTLY WITH STRONG OXIDIZING AGENTS OR ACIDS. IF WATER EVAPORATED, OXIDES OF CARBON AND NITROGEN WILL BE PRODUCED BY COMBUSTION. |
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SECTION 11: TOXICOLOGICAL INFORMATION

MATERIAL SAFETY DATA SHEET

ST1248

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| Material & Tests: | MORPHOLINE: ORAL LD50 (RAT) = 1050 mg/kg; DERMAL LD50 (RABBIT) = 500 mg/kg. |
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SECTION 12: ECOLOGICAL INFORMATION

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| Aquatic Toxicity: | MORPHOLINE: 96 HR LC50 (RAINBOW TROUT) = 180-380 mg/L; 24 HR EC50 (DAPHNIA MAGNA) = 100mg/L; 96 HR EC50 (ALGAL) = 28 mg/L. |
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SECTION 13: DISPOSAL CONSIDERATIONS

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| General Considerations: Procedures: | THIS PRODUCT WOULD NOT BE CONSIDERED A HAZARDOUS WASTE. DISPOSAL BY USE PREFERRED BUT IF THIS NOT POSSIBLE, DILUTE WITH COPIOUS QUANTITIES OF WATER, NEUTRALIZE WITH DILUTE ACID AND FLUSH TO WASTE, PREFERABLY TO A SANITARY SEWER. HOWEVER, OBEY ALL FEDERAL, STATE OR LOCAL REGULATIONS. |
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SECTION 14: TRANSPORT INFORMATION

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| Shipping Name: | COMBUSTIBLE LIQUID, N.O.S. (MORPHOLINE) |
| Primary Hazard Class: | COMBUSTIBLE |
| Identification No.: | NA1993 |
| Packing Group: | III |
| 2004 NAERG No.: | 128 |

SECTION 15: REGULATORY INFORMATION

| <u>Regulation</u> | <u>Material</u> | <u>RQ</u> | <u>Max. %</u> |
|-----------------------------------|--|------------|---------------------------------------|
| CERCLA (40 CFR302.4): | NONE | | |
| SARA 302 (Sect. 355, Appendix A): | NONE | <u>TPQ</u> | <u>Max. %</u> |
| SARA 311/312: | <u>Categories</u> IMMEDIATE HEALTH | | <u>Hazards</u> EYE, SKIN CORROSIVE |
| SARA 313 (40 CFR 372.45): | NONE | | <u>Max. %</u> |
| CWA (40 CFR 401.15): | NONE | | |
| RCRA (40 CFR 261): | NONE | | |
| OSHA (29 CFR 1910.1200): | ALL COMPONENTS LISTED UNDER THIS STANDARD ARE SHOWN IN SECTION 2 OF THIS MSDS. | | |
| TSCA: | ALL INGREDIENTS IN THIS PRODUCT ARE LISTED IN THE TSCA INVENTORY. | | |

SPECIAL STATE REGULATIONS

| <u>STATE</u> | <u>INGREDIENT</u> | <u>%</u> | <u>REGULATORY DESIGNATION</u> |
|--------------|-------------------|----------|-------------------------------|
| NONE | | | |

SECTION 16 OTHER INFORMATION

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ST1248

SUGGESTED HAZARD RATINGS

| <u>NFPA*</u> | <u>HAZARD</u> | <u>HMIS*</u> |
|--------------|---------------------|--------------|
| 3 | HEALTH (Blue) | 3 |
| 2 | FIRE (Red) | 2 |
| 0 | REACTIVITY (Yellow) | 0 |
| | PERSONAL PROTECTION | D |
| | SPECIAL HAZARDS | |

*Notes: 0 = Insignificant; 1 = Slight; 2 = Moderate; 3 = High; 4 = Extreme

The data contained in this Material Safety Data Sheet has been prepared based upon an evaluation of the ingredients in the product, their concentration in the product and potential interactions. The information is offered in good faith and is believed to be accurate. It is furnished to the customer who is urged to study it carefully to become aware of hazards, if any, in the storage, handling, use and disposal of the product; and to insure his employees are properly informed and advised of all safety precautions required. The information is furnished for compliance with the "Occupational Safety and Health Act" of 1970, the "Hazards Communication Act" of 1983 as well as various other Federal, State and Local regulations. Use or dissemination of all or part of this information for any other purpose is prohibited by law.