Sigma Chemical Co. P.O. Box 14508 St. Louis, MO 63178 USA Phone: 314-771-5765 MATERIAL SAFETY DATA SHEET SECTION 1. - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - -CATALOG #: M1875 MALONIC ACID DISODIUM NAME: SECTION 2. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -CAS #: 26522-85-0 MF: C3H2NA2O4 SYNONYMS DISODIUM MALONATE * MALONIC ACID, DISODIUM SALT (8CI) * PROPANEDIOIC ACID, DISODIUM SALT (9CI) * SODIUM MALONATE * SECTION 3. - - - - - - - - HAZARDS IDENTIFICATION - - - - -LABEL PRECAUTIONARY STATEMENTS CAUTION: AVOID CONTACT AND INHALATION. HYGROSCOPIC SECTION 4. - - - - - - - - FIRST-AID MEASURES- - - - - -IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN. IF INHALED, REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, CALL A PHYSICIAN. IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER. IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN. SECTION 5. - - - - - - - FIRE FIGHTING MEASURES - - - - - - - -EXTINGUISHING MEDIA WATER SPRAY. CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM. SPECIAL FIREFIGHTING PROCEDURES WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES. UNUSUAL FIRE AND EXPLOSIONS HAZARDS EMITS TOXIC FUMES UNDER FIRE CONDITIONS. SECTION 6. - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - -WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE. SECTION 7. - - - - - - - HANDLING AND STORAGE- - - - - - - - -REFER TO SECTION 8. SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -SAFETY SHOWER AND EYE BATH. MECHANICAL EXHAUST REOUIRED. AVOID INHALATION. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE. NIOSH/MSHA-APPROVED RESPIRATOR. COMPATIBLE CHEMICAL-RESISTANT GLOVES. CHEMICAL SAFETY GOGGLES. KEEP TIGHTLY CLOSED. STORE IN A COOL DRY PLACE.

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WASH THOROUGHLY AFTER HANDLING. SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - -APPEARANCE AND ODOR SOLTD. SECTION 10. - - - - - - - STABILITY AND REACTIVITY - - - - - - -STABILITY STABLE. INCOMPATIBILITIES PROTECT FROM MOISTURE. STRONG OXIDIZING AGENTS HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS CARBON MONOXIDE, CARBON DIOXIDE HAZARDOUS POLYMERIZATION WILL NOT OCCUR. SECTION 11. - - - - - - TOXICOLOGICAL INFORMATION - - - - - -ACUTE EFFECTS MAY CAUSE SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN. MAY CAUSE EYE IRRITATION. MAY BE HARMFUL IF INHALED. MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT. MAY BE HARMFUL IF SWALLOWED. TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED. RTECS #: 001750000 MALONIC ACID, SODIUM SALT TOXICITY DATA IPR-RAT LD50:1100 MG/KG JPPMAB 17,814,1965 IPR-MUS LD50:1550 MG/KG AIPTAK 79,461,1949 AIPTAK 79,461,1949 IVN-MUS LD50:2100 MG/KG AIPTAK 79,461,1949 IVN-RBT LD50:660 MG/KG TARGET ORGAN DATA BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD) CARDIAC (OTHER CHANGES) LUNGS, THORAX OR RESPIRATION (OTHER CHANGES) ENDOCRINE (HYPERGLYCEMIA) ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION. SECTION 12. - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - -DATA NOT YET AVAILABLE. SECTION 13. - - - - - - DISPOSAL CONSIDERATIONS - - - - - - -CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE. COPYRIGHT 2001 SIGMA-ALDRICH CO. LICENSE GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY