M A T E R I A L  S A F E T Y  D A T A  S H E E T

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION - - - - - - - - - -
CATALOG #: M2633
NAME: METHYLMALONIC ACID

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 516-05-2
MF: C4H6O4
EC NO: 208-219-5
SYNONYMS
1,1-ETHANEDICARBOXYLIC ACID * ISOSUCCINIC ACID * METHYLMALONIC ACID *
2-METHYL MALONIC ACID * PROPANEDIIOIC ACID, METHYL- (9CI) *

SECTION 3. - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
HARMFUL
HARMFUL BY INHALATION AND IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - -
CONTAMINATION OF THE EYES SHOULD BE TREATED BY IMMEDIATE AND PROLONGED IRRIGATION WITH COPIOUS AMOUNTS OF WATER.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -
EXTINGUISHING MEDIA
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
WATER SPRAY.
SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
THIS MATERIAL, LIKE MOST MATERIALS IN POWDER FORM, IS CAPABLE OF CREATING A DUST EXPLOSION.

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- - - - -
CHEMICAL SAFETY GOGGLES.
RUBBER GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
DO NOT BREATHE DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
IRRITANT.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
WHITE TO OFF-WHITE CRYSTALLINE POWDER

PHYSICAL PROPERTIES
MELTING POINT: 134 C TO 136 C
SPECIFIC GRAVITY: 1.455

SECTION 10. - - - - - - - STABILITY AND REACTIVITY - - - - - - -

INCOMPATIBILITIES

BASES
OXIDIZING AGENTS
REDUCING AGENTS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE

SECTION 11. - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - -

ACUTE EFFECTS
HARMFUL IF INHALED OR SWALLOWED.
CAUSES EYE AND SKIN IRRITATION.
MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: OO1400000
MALONIC ACID, METHYL-

TOXICITY DATA
IVN-MUS LD50:100 MG/KG
CSDLNX* NX#02314
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 - - - - - - -
DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - TRANSPORT INFORMATION - - - - - - -
CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - REGULATORY INFORMATION - - - - - - -
EUROPEAN INFORMATION
HARMFUL
R 20/22
HARMFUL BY INHALATION AND IF SWALLOWED.
R 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
S 36
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 16. - - - - - - - OTHER INFORMATION-- - - - - - - -
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