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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	30373
NAME:	Adipic acid
SYNONYMS:	Hexanedioic acid
24 HOUR EMERGENCY TELEPHONE:	(800) 535-5053(USA) 352-323-3500 (INTERNATIONAL)
TO REQUEST AN MSDS:	(800) 869-9290
CUSTOMER SERVICE:	(630) 766-2112

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE
GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)
SERIOUS EYE DAMAGE (CATEGORY 1), H318
ACUTE AQUATIC TOXICITY (CATEGORY 3), H402

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS
PICTOGRAM**



SIGNAL WORD DANGER

HAZARD STATEMENT(S)

H318 CAUSES SERIOUS EYE DAMAGE.

H402 HARMFUL TO AQUATIC LIFE.

PRECAUTIONARY STATEMENT(S)

P273 AVOID RELEASE TO THE ENVIRONMENT.

P280 WEAR EYE PROTECTION/ FACE PROTECTION.

P305 + P351 + P338 +
P310 IF IN EYES: RINSE CAUTIOUSLY WITH WATER
FOR SEVERAL MINUTES. REMOVE CONTACT
LENSES, IF PRESENT AND EASY TO DO.

CONTINUE RINSING. IMMEDIATELY CALL A
POISON CENTER OR DOCTOR/ PHYSICIAN.

P501 DISPOSE OF CONTENTS/ CONTAINER TO AN
APPROVED WASTE DISPOSAL PLANT.

HAZARDS NOT
OTHERWISE
CLASSIFIED (HNOC)
OR NOT COVERED
BY GHS

COMBUSTIBLE DUST

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: $C_6H_{10}O_4$

MW: 146.14

CAS-NO. 124-04-9

PURITY: $\geq 99.7\%$ (Assay)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
Adipic acid	EYE DAM. 1; AQUATIC ACUTE 3; H318, H402	$\leq 100\%$

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE
SECTION 16.

SECTION 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

GENERAL ADVICE	CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.
IF INHALED	IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.
IN CASE OF SKIN CONTACT	WASH OFF WITH SOAP AND PLENTY OF WATER. CONSULT A PHYSICIAN.
IN CASE OF EYE CONTACT	RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CONSULT A PHYSICIAN.
IF SWALLOWED	NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED	THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	NO DATA AVAILABLE

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA	
SUITABLE EXTINGUISHING MEDIA	USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY CHEMICAL OR CARBON DIOXIDE.
SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	CARBON OXIDES
ADVICE FOR FIREFIGHTERS	WEAR SELF-CONTAINED BREATHING APPARATUS FOR FIREFIGHTING IF NECESSARY.
FURTHER INFORMATION	NO DATA AVAILABLE

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES	USE PERSONAL PROTECTIVE EQUIPMENT. AVOID DUST FORMATION. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. EVACUATE PERSONNEL TO SAFE AREAS. AVOID BREATHING DUST. FOR PERSONAL PROTECTION SEE SECTION 8.
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ENVIRONMENTAL
PRECAUTIONS

PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE
TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.
DISCHARGE INTO THE ENVIRONMENT MUST BE
AVOIDED.

METHODS AND
MATERIALS FOR
CONTAINMENT AND
CLEANING UP

PICK UP AND ARRANGE DISPOSAL WITHOUT
CREATING DUST. SWEEP UP AND SHOVEL. KEEP IN
SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.

REFERENCE TO OTHER
SECTIONS

FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE
HANDLING

FURTHER PROCESSING OF SOLID MATERIALS MAY
RESULT IN THE FORMATION OF COMBUSTIBLE DUSTS.
THE POTENTIAL FOR COMBUSTIBLE DUST
FORMATION SHOULD BE TAKEN INTO CONSIDERATION
BEFORE ADDITIONAL PROCESSING OCCURS.AVOID
FORMATION OF DUST AND AEROSOLS.
PROVIDE APPROPRIATE EXHAUST VENTILATION AT
PLACES WHERE DUST IS FORMED.
FOR PRECAUTIONS SEE SECTION 2.2.

CONDITIONS FOR SAFE
STORAGE, INCLUDING
ANY INCOMPATIBILITIES

KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND
WELL-VENTILATED PLACE.
STORAGE CLASS (TRGS 510): NON COMBUSTIBLE
SOLIDS

SPECIFIC END USE(S)

APART FROM THE USES MENTIONED IN SECTION 1.2
NO OTHER SPECIFIC USES ARE STIPULATED

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

COMPONENT	CAS-NO.	VALUE	CONTROL PARAMETERS	BASIS
ADIPIC ACID	124-04-9	TWA	5 MG/M3	USA. ACGIH THRESHOLD LIMIT VALUES (TLV)
	REMARKS	UPPER RESPIRATORY TRACT IRRITATION ANS IMPAIRMENT		

EXPOSURE CONTROLS

<p>APPROPRIATE ENGINEERING CONTROLS PERSONAL PROTECTIVE EQUIPMENT EYE/FACE PROTECTION</p>	<p>HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND AT THE END OF WORKDAY.</p> <p>FACE SHIELD AND SAFETY GLASSES USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).</p>
<p>SKIN PROTECTION</p>	<p>HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.</p> <p>FULL CONTACT MATERIAL: NITRILE RUBBER MINIMUM LAYER THICKNESS: 0.11 MM BREAK THROUGH TIME: 480 MIN MATERIAL TESTED:DERMATRIL (KCL 740 , SIZE M)</p> <p>SPLASH CONTACT MATERIAL: NITRILE RUBBER MINIMUM LAYER THICKNESS: 0.11 MM BREAK THROUGH TIME: 480 MIN MATERIAL TESTED:DERMATRIL (KCL 740 , SIZE M)</p> <p>IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES, AND UNDER CONDITIONS WHICH DIFFER FROM EN 374, CONTACT THE SUPPLIER OF THE CE APPROVED GLOVES. THIS RECOMMENDATION IS ADVISORY ONLY AND MUST BE EVALUATED BY AN INDUSTRIAL HYGIENIST AND SAFETY OFFICER FAMILIAR WITH THE SPECIFIC SITUATION OF ANTICIPATED USE BY OUR CUSTOMERS. IT SHOULD NOT BE CONSTRUED AS OFFERING AN APPROVAL FOR ANY SPECIFIC USE SCENARIO.</p>
<p>BODY PROTECTION</p>	<p>COMPLETE SUIT PROTECTING AGAINST CHEMICALS, THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.</p>

RESPIRATORY PROTECTION	WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULL-FACE PARTICLE RESPIRATOR TYPE N100 (US) OR TYPE P3 (EN 143) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).
CONTROL OF ENVIRONMENTAL EXPOSURE	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	White crystalline powder
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	2.7 AT 23 G/L AT 25 °C
MELTING POINT/FREEZING POINT	151-154 °C
BOILING POINT	265 °C/100 mmHg
FLASH POINT	196 °C
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	1 HPA (1 MMHG) AT 159.5 °C 0.097 HPA (0.073 MMHG) AT 18.5 °C
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	1.360 g/mL at 25 °C
WATER SOLUBILITY	23 G/L AT 25 °C - SOLUBLE
PARTITION COEFFICIENT: N- OCTANOL/WATER	LOG POW: 0.093 AT 25 °C
AUTO-IGNITION TEMPERATURE	> 400 °C
DECOMPOSITION TEMPERATURE	NO DATA AVAILABLE
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NOT EXPLOSIVE
OXIDIZING PROPERTIES	NO DATA AVAILABLE

OTHER SAFETY INFORMATION

BULK DENSITY	0.7 G/L
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SOLUBILITY IN OTHER SOLVENTS	METHANOL - SOLUBLE ETHANOL - SOLUBLE ACETONE SOLUBLE BENZENE - SLIGHTLY SOLUBLE
DISSOCIATION CONSTANT	4.43 AT 20 C

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY	NO DATA AVAILABLE
CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONS	NO DATA AVAILABLE
CONDITIONS TO AVOID INCOMPATIBLE MATERIALS	NO DATA AVAILABLE STRONG OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS	OTHER DECOMPOSITION PRODUCTS - NO DATA AVAILABLE IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	LD50 ORAL - RAT - MALE AND FEMALE - 5,560 MG/KG (OECD TEST GUIDELINE 401)
	LC0 INHALATION - RAT - MALE AND FEMALE - 4 H - > 7.7 MG/L (OECD TEST GUIDELINE 403)
	LD0 DERMAL - RABBIT - MALE AND FEMALE - 7,940 MG/KG
	NO DATA AVAILABLE
SKIN CORROSION/IRRITATION	SKIN - RABBIT RESULT: MILD SKIN IRRITATION - 24 H (OECD TEST GUIDELINE 404)
SERIOUS EYE DAMAGE/EYE IRRITATION	EYES - RABBIT RESULT: RISK OF SERIOUS DAMAGE TO EYES. - 24 H (OECD TEST GUIDELINE 405)

RESPIRATORY OR SKIN SENSITISATION	MAXIMISATION TEST (GPMT) - GUINEA PIG RESULT: DOES NOT CAUSE SKIN SENSITISATION
GERM CELL MUTAGENICITY	HAMSTER FIBROBLAST RESULT: NEGATIVE
CARCINOGENICITY	RAT - MALE RESULT: NEGATIVE
IARC:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC.
ACGIH:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY ACGIH.
NTP:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.
OSHA:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY OSHA.
REPRODUCTIVE TOXICITY	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	NO DATA AVAILABLE
ASPIRATION HAZARD	NO DATA AVAILABLE
ADDITIONAL INFORMATION	RTECS: AU8400000 TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY	
TOXICITY TO FISH	STATIC TEST LC0 - BRACHYDANIO RERIO (ZEBRAFISH) - >= 1,000 MG/L - 96 H

TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES	IMMOBILIZATION LC50 - DAPHNIA MAGNA (WATER FLEA) - 46 MG/L - 48 H (OECD TEST GUIDELINE 202)
TOXICITY TO ALGAE	STATIC TEST EC50 - PSEUDOKIRCHNERIELLA SUBCAPITATA (AGLAE) - 59 MG/L - 72 H (OECD TEST GUIDELINE 201)
TOXICITY TO BACTERIA	RESPIRATION INHIBITION EC50 - SLUDGE TREATMENT - 7,910 MG/L - 3 H (OECD TEST GUIDELINE 209)

PERSISTENCE AND DEGRADABILITY

BIODEGRADABILITY	AEROBIC - EXPOSURE TIME 30 D RESULT: 83 % - READILY BIODEGRADABLE. (OECD TEST GUIDELINE 301D)
BIOACCUMULATIVE POTENTIAL	NO DATA AVAILABLE
MOBILITY IN SOIL	NO DATA AVAILABLE
RESULTS OF PBT AND VPVB ASSESSMENT	PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED
OTHER ADVERSE EFFECTS	AN ENVIRONMENTAL HAZARD CANNOT BE EXCLUDED IN THE EVENT OF UNPROFESSIONAL HANDLING OR DISPOSAL. HARMFUL TO AQUATIC LIFE.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCT	OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY.
CONTAMINATED PACKAGING	DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Adipic acid)
UN NUMBER:	3077
CLASS:	9
PACKING GROUP:	III
REPORTABLE QUANTITY (RQ):	5000 LBS
POISON INHALATION HAZARD:	NO

IMDG

NOT DANGEROUS GOODS

IATA
NOT DANGEROUS GOODS

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS	NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III, SECTION 302.	
SARA 313 COMPONENTS	THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DEMINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.	
MASSACHUSETTS RIGHT TO KNOW COMPONENTS	CAS #	REVISION DATE
Adipic acid	124-04-9	4/24/1993
PENNSYLVANIA RIGHT TO KNOW COMPONENTS	CAS #	REVISION DATE
Adipic acid	124-04-9	4/24/1993/4/24/1993
NEW JERSEY RIGHT TO KNOW COMPONENTS	CAS #	REVISION DATE
Adipic acid	124-04-9	4/24/1993
CALIFORNIA PROP. 65 COMPONENTS	THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.	

SECTION 16. OTHER INFORMATION

FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.

AQUATIC ACUTE	ACUTE AQUATIC TOXICITY
EYE DAM.	SERIOUS EYE DAMAGE
H318	CAUSES SERIOUS EYE DAMAGE.
H402	HARMFUL TO AQUATIC LIFE.

HMIS RATING	
HEALTH HAZARD:	2
CHRONIC HEALTH HAZARD:	
FLAMMABILITY:	1
PHYSICAL HAZARD	0

NFPA RATING	
HEALTH HAZARD:	2
FIRE HAZARD:	1
REACTIVITY HAZARD:	0

MSDS LEGEND

MW:	MOLECULAR WEIGHT
MF:	MOLECULAR FORMULA
VOC:	VOLATILE ORGANIC COMPOUNDS
ACGIH:	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGINISTS
CAS:	CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER
OSHA:	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL:	PERMISSIBLE EXPOSURE LIMIT (OSHA)
TLV:	THRESHOLD LIMIT VALUE (ACGIH)

IMPORTANT:

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