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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	47759
NAME:	1-Hydroxybenzotriazole, 0.5M solution in DMF
24 HOUR EMERGENCY TELEPHONE:	(800) 535-5053(USA) 352-323-3500
TO REQUEST AN MSDS:	(INTERNATIONAL)(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)

ACUTE TOXICITY, DERMAL (CATEGORY 4), H312
SERIOUS EYE DAMAGE/EYE IRRITATION (CATEGORY 2A), H319
ACUTE TOXICITY, INHALATION (CATEGORY 4), H332
REPRODUCTIVE TOXICITY (CATEGORY 1A), H360

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)

H226	FLAMMABLE LIQUID AND VAPOUR.
H312	HARMFUL IN CONTACT WITH SKIN
H319	CAUSES SERIOUS EYE IRRITATION
H332	HARMFUL IF INHALED
H360D	MAY DAMAGE THE UNBORN CHILD

PRECAUTIONARY STATEMENT(S)

P201	OBTAIN SPECIAL INSTRUCTIONS BEFORE USE
P210	KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. - NO SMOKING.
P261	AVOID BREATHING DUST/ FUME/ GAS/ MIST/ VAPOURS/ SPRAY.
P264	WASH SKIN THOROUGHLY AFTER HANDLING.
P280	WEAR PROTECTIVE GLOVES/ EYE PROTECTION/ FACE PROTECTION.
P302 + P352	IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER
P304 + P340	IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING
P305 + P351 + P338	IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING
P308 + P313	IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ATTENTION
P312	CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL
P403 + P235	STORE IN A WELL-VENTILATED PLACE. KEEP COOL.
P501	DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

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

NONE

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF:	C ₆ H ₅ N ₃ O
MW:	135.12
CAS-NO.	2592-95-2, 40150-21-8

PURITY: $\geq 99\%$ (HPLC)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION	
1-Hydroxybenzotriazole, 0.5M solution in DMF			
Component	CAS No	EINECS-No	Weight-%
N,N-DIMETHYLFORMAMIDE 68-12-2 (80-100)	68-12-2	200-679-5	80-100
1-HYDROXYBENZOTRIAZOLE 2592-95-2 (5-10)	2592-95-2	219-989-7	5-10

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.MOVE OUT OF DANGEROUS AREA.
IF INHALED	NOT EXPECTED TO BE AN INHALATION HAZARD UNDER ANTICIPATED CONDITIONS OF NORMAL USE OF THIS MATERIAL. CONSULT A PHYSICIAN IF NECESSARY.
IN CASE OF SKIN CONTACT	RINSE SKIN WITH WATER. IMMEDIATE MEDICAL ATTENTION IS NOT REQUIRED.
IN CASE OF EYE CONTACT	RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING.
IF SWALLOWED	NOT EXPECTED TO PRESENT A SIGNIFICANT INGESTION HAZARD UNDER ANTICIPATED CONDITIONS OF NORMAL USE. IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE.
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED	H226 - FLAMMABLE LIQUID AND VAPOR H312 - HARMFUL IN CONTACT WITH SKIN H319 - CAUSES SERIOUS EYE IRRITATIONH332-HARMFUL IF INHALED H360D - MAY DAMAGE THE UNBORN CHILD
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	IF ON SKIN (OR HAIR): TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER. IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING. GET MEDICAL ADVICE/ATTENTION IF YOU FEEL UNWELL. IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ATTENTION.

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA	SUITABLE EXTINGUISHING MEDIA WATER SPRAY. CARBON DIOXIDE (CO ₂). FOAM. DRYCHEMICAL. UNSUITABLE EXTINGUISHING MEDIA NO INFORMATION AVAILABLE.
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SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	NO DATA AVAILABLE
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ADVICE FOR FIREFIGHTERS	WEAR SELF-CONTAINED BREATHING APPARATUS FOR FIREFIGHTING IF NECESSARY.
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FURTHER INFORMATION	-
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SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES	USE PERSONAL PROTECTIVE EQUIPMENT. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. REMOVE ALL SOURCES OF IGNITION. EVACUATE PERSONNEL TO SAFE AREAS. BEWARE OF VAPOURS ACCUMULATING TO FORM EXPLOSIVE CONCENTRATIONS. VAPOURS CAN ACCUMULATE IN LOW AREAS. 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.
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METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP	SOAK UP WITH INERT ABSORBENT MATERIAL.
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REFERENCE TO OTHER SECTIONS	SEE SECTION 8 FOR MORE INFORMATION.
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SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	AVOID CONTACT WITH SKIN AND EYES. AVOID INHALATION OF VAPOUR OR MIST. KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE. FOR PRECAUTIONS SEE SECTION 2.2.
CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES	KEEP IN A DRY, COOL AND WELL-VENTILATED PLACE. KEEP IN PROPERLY LABELED CONTAINERS. STORE AT RT
SPECIFIC END USE(S)	RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

CHEMICAL NAME	OSHA PEL	OSHA PEL (CEILING)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
N,N-DIMETHYLFORMAMIDE	10 PPM 30 MG/M3	NONE	5 PPM	NONE
1-HYDROXYBENZOTRIAZOLE	NONE	NONE	NONE	NONE

EXPOSURE CONTROLS

APPROPRIATE ENGINEERING CONTROLS

ENSURE ADEQUATE VENTILATION, ESPECIALLY IN CONFINED AREAS.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION

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).

SKIN PROTECTION

WEAR SUITABLE PROTECTIVE CLOTHING.

BODY PROTECTION	COMPLETE SUIT PROTECTING AGAINST CHEMICALS, FLAME RETARDANT ANTISTATIC PROTECTIVE CLOTHING. THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.
RESPIRATORY PROTECTION	IN CASE OF INSUFFICIENT VENTILATION WEAR RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS.
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	Clear colorless solution
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	NO DATA AVAILABLE
BOILING POINT	NO DATA AVAILABLE
FLASH POINT	NO DATA AVAILABLE
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	NO DATA AVAILABLE
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	NO DATA AVAILABLE
WATER SOLUBILITY	NO DATA AVAILABLE
PARTITION COEFFICIENT: N-OCTANOL/WATER	NO DATA AVAILABLE
AUTO-IGNITION TEMPERATURE	NO DATA AVAILABLE
DECOMPOSITION TEMPERATURE	NO DATA AVAILABLE
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NO DATA AVAILABLE
OXIDIZING PROPERTIES	NO DATA AVAILABLE

**OTHER SAFETY
INFORMATION**

NO DATA AVAILABLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY	NO DATA AVAILABLE
CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONS	HAZARDOUS REACTION HAS NOT BEEN REPORTED.
CONDITIONS TO AVOID	NO DATA AVAILABLE
INCOMPATIBLE MATERIALS	NO DANGEROUS REACTION KNOWN UNDER CONDITIONS OF NORMAL USE.
HAZARDOUS DECOMPOSITION PRODUCTS	NO DATA AVAILABLE

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

CHEMICAL NAME	ORAL LD50	DERMAL LD50	INHALATION LC50
N,N- DIMETHYLFORMAMIDE	2000 MG/KG (RAT) = 2800 MG/KG (RAT)	1,500 MG/KG (RABBIT)	4 H - 9 - 15 MG/L (RAT)
1- HYDROXYBENZOTRIAZOLE	NO DATA AVAILABLE	NO DATA AVAILABLE	NO DATA AVAILABLE

ACUTE TOXICITY	HARMFUL IN CONTACT WITH SKIN. HARMFUL IF INHALED.
SKIN CORROSION/IRRITATION	DATA ARE CONCLUSIVE BUT INSUFFICIENT FOR CLASSIFICATION
SERIOUS EYE DAMAGE/EYE IRRITATION	DATA ARE CONCLUSIVE BUT INSUFFICIENT FOR CLASSIFICATION
RESPIRATORY OR SKIN SENSITISATION	NO DATA AVAILABLE
GERM CELL MUTAGENICITY	NO DATA AVAILABLE

CARCINOGENICITY

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.

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 ON OSHA'S LIST OF REGULATED CARCINOGENS.

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 DATA ARE CONCLUSIVE BUT INSUFFICIENT FOR CLASSIFICATION

ADDITIONAL INFORMATION NO DATA AVAILABLE

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY

THE ENVIRONMENTAL IMPACT OF THIS PRODUCT HAS NOT BEEN FULLY INVESTIGATED.					
CHEMICAL NAME	TOXICITY TO ALGAE	TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES	TOXICITY TO FISH	MICROTOX DATA	LOG POW
N,N-DIMETHYLFORMAMIDE	DESMODESMUS SUBSPICATUS EC50>500 MG/L (96 H)	DAPHNIA MAGNA EC506800 - 13900 MG/L (48 H) DAPHNIA MAGNA EC50=8485 MG/L (48 H) DAPHNIA MAGNA EC50=7500 MG/L (48 H)	NO DATA AVAILABLE	NO DATA AVAILABLE	LOGPOW-1.028
1-HYDROXYBENZOTRIAZOLE	NO DATA AVAILABLE	NO DATA AVAILABLE	NO DATA AVAILABLE	NO DATA AVAILABLE	NO DATA AVAILABLE

PERSISTENCE AND DEGRADABILITY

NO DATA AVAILABLE

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	NO DATA AVAILABLE

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCT THE GENERATION OF WASTE SHOULD BE AVOIDED OR MINIMIZED WHEREVER POSSIBLE. EMPTY CONTAINERS OR LINERS MAY RETAIN SOME PRODUCT RESIDUES. THIS MATERIAL AND ITS CONTAINER MUST BE DISPOSED OF IN ACCORDING TO APPROVED DISPOSAL TECHNIQUE. DISPOSAL OF THIS PRODUCT, ITS SOLUTIONS OR OF ANY BY-PRODUCTS, SHALL COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LOCAL, REGIONAL OR NATIONAL/FEDERAL REGULATIONS

CONTAMINATED PACKAGING DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME: DESENSITIZED EXPLOSIVE, LIQUID, N.O.S. (1-HYDROXYBENZOTRIAZOLE MAXIMUM 7.68% W/W IN N,N-DIMETHYLFORMAMIDE)

UN NUMBER: 3379

CLASS: 3

PACKING GROUP: -

REPORTABLE QUANTITY (RQ):

POISON INHALATION HAZARD: NO

IMDG

PROPER SHIPPING NAME: DESENSITIZED EXPLOSIVE, LIQUID, N.O.S. (1-HYDROXYBENZOTRIAZOLE MAXIMUM 7.68% W/W IN N,N-DIMETHYLFORMAMIDE)

UN NUMBER: 3379

CLASS: 3

PACKING GROUP: -

IATA

PROPER SHIPPING NAME: DESENSITIZED EXPLOSIVE, LIQUID, N.O.S. (1-HYDROXYBENZOTRIAZOLE
 MAXIMUM 7.68% W/W IN N,N-DIMETHYLFORMAMIDE)

UN NUMBER: 3379
 CLASS: 3
 PACKING GROUP: -

SECTION 15. REGULATORY INFORMATION**SARA 313 COMPONENTS**

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICAL(S) SUBJECT TO THE NOTIFICATION REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986. THIS LAW REQUIRES CERTAIN MANUFACTURERS TO REPORT ON ANNUAL EMISSIONS OF SPECIFIED CHEMICALS AND CHEMICAL CATEGORIES. PLEASE NOTE THAT IF YOU REPACKAGE, OR OTHERWISE REDISTRIBUTE, THIS PRODUCT TO INDUSTRIAL CUSTOMERS, A NOTICE SIMILAR TO THIS ONE SHOULD BE SENT TO THOSE CUSTOMERS.

CHEMICAL NAME	CAS NO.	WEIGHT-%	SARA 313 - THRESHOLD VALUES
N,N-DIMETHYLFORMAMIDE	68-12-2	80-100	1.0

CLEAN AIR ACT, SECTION 112 THIS PRODUCT CONTAINS THE FOLLOWING HAPS HAZARDOUS AIR POLLUTANTS (HAPS) (SEE 40 CFR 61)

CHEMICAL NAME	CAS NO.	WEIGHT-%	SARA 313 - THRESHOLD VALUES
N,N-DIMETHYLFORMAMIDE	68-12-2	80-100	1.0

US STATE REGULATIONS**CALIFORNIA PROPOSITION 65**

THIS PRODUCT CONTAINS THE FOLLOWING PROPOSITION 65 CHEMICALS:

CHEMICAL NAME	CAS NO.	WEIGHT-%	SARA 313 - THRESHOLD VALUES
N,N-DIMETHYLFORMAMIDE	68-12-2	80-100	1.0

WHMIS HAZARD CLASS

B2 - FLAMMABLE LIQUID
 D2A - VERY TOXIC MATERIAL

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CONTROLLED PRODUCTS REGULATIONS (CPR) AND THE SDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

SECTION 16. OTHER INFORMATION

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

H226	FLAMMABLE LIQUID AND VAPOUR.
H312	HARMFUL IN CONTACT WITH SKIN
H319	CAUSES SERIOUS EYE IRRITATION
H332	HARMFUL IF INHALED
H360D	MAY DAMAGE THE UNBORN CHILD

MSDS LEGEND

MW:	MOLECULAR WEIGHT
MF:	MOLECULAR FORMULA
VOC:	VOLATILE ORGANIC COMPOUNDS
ACGIH:	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
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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