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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 43370

NAME: N,N'-Dimethylpiperazine

SYNONYMS:

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)

FLAMMABLE LIQUIDS (CATEGORY 2), H225 ACUTE TOXICITY, ORAL (CATEGORY 4), H302 SKIN CORROSION (CATEGORY 1B), H314 SERIOUS EYE DAMAGE (CATEGORY 1), H318 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)

H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR.

H302 HARMFUL IF SWALLOWED.

H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

PRECAUTIONARY STATEMENT(S)

P210	KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES	
1 2 1 0		

NO SMOKING.

P233 KEEP CONTAINER TIGHTLY CLOSED.

P240 GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT.

P241 USE EXPLOSION-PROOF ELECTRICAL/ VENTILATING/

LIGHTING/ EQUIPMENT.

P242 USE ONLY NON-SPARKING TOOLS.

P243 TAKE PRECAUTIONARY MEASURES AGAINST STATIC

DISCHARGE.

P264 WASH SKIN THOROUGHLY AFTER HANDLING.

P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE

PROTECTION/ FACE PROTECTION.

P301 + P312 + P330 IF SWALLOWED: CALL A POISON CENTER/ DOCTOR IF YOU FEEL

UNWELL. RINSE MOUTH.

P301 + P330 + P331 IF SWALLOWED: RINSE MOUTH. DO NOT INDUCE VOMITING.

P303 + P361 + P353 IF ON SKIN (OR HAIR): REMOVE/ TAKE OFF IMMEDIATELY ALL

CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/

SHOWER.

P304 + P340 + P310 IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP

COMFORTABLE FOR BREATHING. IMMEDIATELY CALL A

POISON CENTER/ DOCTOR.

P305 + P351 + P338 + IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL

P310 MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY

TO DO. CONTINUE RINSING. IMMEDIATELY CALL A POISON

CENTER/ DOCTOR.

P363 WASH CONTAMINATED CLOTHING BEFORE REUSE.

P370 + P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR

ALCOHOL-RESISTANT FOAM FOR EXTINCTION.

P403 + P235 STORE IN A WELL-VENTILATED PLACE. KEEP COOL.

P405 STORE LOCKED UP.

P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE

DISPOSAL PLANT.

HAZARDS NOT NONE

OTHERWISE

CLASSIFIED (HNOC) OR NOT COVERED BY GHS

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: $C_6H_{14}N_2$

MW: 114.19

CAS-NO. 106-58-1

PURITY: \geq 98% (GC)

COMPONENT	CLASSIFICATION	CONCENTRATION
<i>N</i> , <i>N</i> '-Dimethylpiperazine		
	FLAM. LIQ. 2; ACUTE TOX. 4; SKIN CORR. 1C; EYE DAM. 1; AQUATIC ACUTE 3; H225, H302, H314, H318, H402	<= 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.MOVE OUT OF DANGEROUS

AREA.

IF INHALED IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT

BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A

PHYSICIAN.

IN CASE OF SKIN

CONTACT

TAKE OFF CONTAMINATED CLOTHING AND SHOES

IMMEDIATELY. 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.CONTINUE

RINSING EYES DURING TRANSPORT TO HOSPITAL.

IF SWALLOWED DO NOT INDUCE VOMITING. 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 SUITABLE EXTINGUISHING MEDIA

EXTINGUISHING MEDIA DRY POWDER DRY SAND

UNSUITABLE EXTINGUISHING MEDIA

DO NOT USE WATER JET.

SPECIAL HAZARDS CARBON OXIDES NITROGEN OXIDES (NOX)

ARISING FROM THE COMBUSTIBLE. SUBSTANCE OR MIXTURE

ADVICE FOR WEAR SELF-CONTAINED BREATHING APPARATUS FOR

FIREFIGHTERS FIREFIGHTING IF NECESSARY.

FURTHER INFORMATION USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL USE PERSONAL PROTECTIVE EQUIPMENT. AVOID
PRECAUTIONS, BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE

PROTECTIVE FOUNDAMENT.

PROTECTIVE EQUIPMENT VENTILATION. REMOVE ALL SOURCES OF IGNITION.

AND EMERGENCY EVACUATE PERSONNEL TO SAFE AREAS. BEWARE OF PROCEDURES VAPOURS ACCUMULATING TO FORM EXPLOSIVE

CONCENTRATIONS. VAPOURS CAN ACCUMULATE IN LOW

AREAS.

FOR PERSONAL PROTECTION SEE SECTION 8.

ENVIRONMENTAL PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO **PRECAUTIONS** SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE

INTO THE ENVIRONMENT MUST BE AVOIDED.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP CONTAIN SPILLAGE, AND THEN COLLECT WITH AN ELECTRICALLY PROTECTED VACUUM CLEANER OR BY WETBRUSHING AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS (SEE SECTION 13).

REFERENCE TO OTHER SECTIONS

FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE AVOID INHALATION OF VAPOUR OR MIST.

HANDLING USE EXPLOSION-PROOF EQUIPMENT.KEEP AWAY FROM

SOURCES OF IGNITION - NO SMOKING. TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE. HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE

BREAKS AND AT THE END OF WORKDAY. FOR PRECAUTIONS SEE SECTION 2.2.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE. CONTAINERS WHICH ARE OPENED MUST BE CAREFULLY RESEALED AND KEPT UPRIGHT TO

PREVENT LEAKAGE

Store at RT

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

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.

EXPOSURE CONTROLS

APPROPRIATEHANDLE IN ACCORDANCE WITH GOOD INDUSTRIALENGINEERINGHYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE

CONTROLS BREAKS AND AT THE END OF WORKDAY.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION

TIGHTLY FITTING SAFETY GOGGLES. FACESHIELD (8-INCH MINIMUM). USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).

SKIN PROTECTION

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.

SPLASH CONTACT

MATERIAL: NITRILE RUBBER

MINIMUM LAYER THICKNESS: 0.4 MM BREAK THROUGH TIME: 101 MIN

MATERIAL TESTED:CAMATRIL (KCL 730, SIZE M)

IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES, AND UNDER CONDITIONS WHICH DIFFER FROM EN 374, CONTACT THE SUPPLIER OF THE EC 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.

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

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULLFACE RESPIRATOR WITH MULTI-PURPOSE COMBINATION (US) OR TYPE ABEK (EN 14387) 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 Colorless to faint yellow liquid

ODOUR AMINE-LIKE

ODOUR THRESHOLD NO DATA AVAILABLE PH 11.4 - (UNDILUTED)

MELTING -1 °C (Lit.)

POINT/FREEZING POINT

INITIAL BOILING POINT 133 °C (Lit.)

AND BOILING RANGE

FLASH POINT 25 °C

EVAPOURATION RATE NO DATA AVAILABLE FLAMMABILITY (SOLID, NO DATA AVAILABLE

GAS)

UPPER/LOWER UPPER EXPLOSION LIMIT: 9.6 %(V) FLAMMABILITY OR LOWER EXPLOSION LIMIT: 1.8 %(V)

EXPLOSIVE LIMITS

VAPOUR PRESSURE 13.06 HPA AT 20 C

VAPOUR DENSITY 4.1 RELATIVE DENSITY 0.85 (Lit.)

WATER SOLUBILITY 1,000 G/L AT 20 C

PARTITION COEFFICIENT: LOG POW: -0.26 AT 20 C - BIOACCUMULATION IS NOT

N- OCTANOL/WATER EXPECTED.

AUTO-IGNITION NO DATA AVAILABLE

TEMPERATURE

DECOMPOSITION NO DATA AVAILABLE

TEMPERATURE

VISCOSITY 0.88 MM2/S AT 20 C EXPLOSIVE PROPERTIES NO DATA AVAILABLE OXIDIZING PROPERTIES NO DATA AVAILABLE

OTHER SAFETY INFORMATION

SURFACE TENSION 70.7 MN/M AT 1G/L AT 20 C - SURFACE TENSION

DISSOCIATION CONSTANT 9.78 AT 20 C

RELATIVE VAPOR 4.1

DENSITY

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY NO DATA AVAILABLE

CHEMICAL STABILITY STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

POSSIBILITY OF VAPOURS MAY FORM EXPLOSIVE MIXTURE WITH AIR.

HAZARDOUS REACTIONS

CONDITIONS TO AVOID HEAT, FLAMES AND SPARKS.

INCOMPATIBLE MATERIALS

STRONG OXIDIZING AGENTS, STRONG ACIDS

HAZARDOUS DECOMPOSITION PRODUCTS IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY LD50 ORAL - RAT - MALE AND FEMALE - 1,116.2 MG/KG

(OECD TEST GUIDELINE 401)

REMARKS: (ECHA)

INHALATION: NO DATA AVAILABLE

LD50 DERMAL - RABBIT - MALE AND FEMALE - 3,000

MG/KG

(OECD TEST GUIDELINE 402)

REMARKS: (ECHA)

NO DATA AVAILABLE

SKIN SKIN RABBIT

CORROSION/IRRITATION RESULT: CORROSIVE AFTER 1 TO 4 HOURS OF EXPOSURE -

24 H

(OECD TEST GUIDELINE 404)

REMARKS: (ECHA)

SERIOUS EYE EYES RABBIT

DAMAGE/EYE IRRITATION RESULT: IRREVERSIBLE EFFECTS ON THE EYE - 1 S (OECD

TEST GUIDELINE 405)

REMARKS: (ECHA)

CAUSES SERIOUS EYE DAMAGE.

RESPIRATORY OR SKIN

MAXIMIZATION TEST - GUINEA PIG

SENSITISATION

RESULT: DOES NOT CAUSE SKIN SENSITIZATION. (OECD

TEST GUIDELINE 406)

REMARKS: (ECHA)

BUEHLER TEST - GUINEA PIG

RESULT: DOES NOT CAUSE SKIN SENSITIZATION. (OECD

TEST GUIDELINE 406)

REMARKS: (ECHA)

GERM CELL MUTAGENICITY IN VITRO MAMMALIAN CELL GENE MUTATION TEST

MOUSE LYMPHOMA TEST

RESULT: NEGATIVE

REMARKS: (ECHA)

CARCINOGENICITY

IARC: NO INGREDIENT 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 INGREDIENT 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 NO DATA AVAILABLE

ADDITIONAL INFORMATION RTECS: TL5945000

NAUSEA

MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES, AND SKIN., SPASM, INFLAMMATION AND EDEMA OF THE LARYNX, SPASM, INFLAMMATION AND EDEMA OF THE BRONCHI, PNEUMONITIS, PULMONARY EDEMA, BURNING SENSATION, COUGH, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE,

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 LC50 - DANIO RERIO (ZEBRA FISH) - CA. 100

MG/L - 96 H

100 MG/L - 48 H

TOXICITY TO DAPHNIA AND

OTHER AQUATIC

INVERTEBRATES

TOXICITY TO ALGAE

STATIC TEST ERC50 - PSEUDOKIRCHNERIELLA

SUBCAPITATA (GREEN ALGAE) - > 100 MG/L - 72 H

STATIC TEST EC50 - DAPHNIA MAGNA (WATER FLEA) ->

TOXICITY TO BACTERIA STATIC TEST EC50 - PSEUDOMONAS PUTIDA - 1,380 MG/L -

PERSISTENCE AND DEGRADABILITY

BIODEGRADABILITY AEROBIC - EXPOSURE TIME 28 D

RESULT: 5.6 % - NOT READILY BIODEGRADABLE.

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. BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS

MATERIAL IS HIGHLY FLAMMABLE. CONTACT A

LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO

DISPOSE OF THIS MATERIAL.

CONTAMINATED PACKAGING

DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME: FLAMMABLE LIQUIDS, CORROSIVE, N.O.S. (N,N-

Dimethylpiperazine)

UN NUMBER: 2924 CLASS: 3 (8) PACKING GROUP: II

REPORTABLE QUANTITY

(RQ):

POISON INHALATION NO

HAZARD:

IMDG

PROPER SHIPPING NAME: FLAMMABLE LIQUIDS, CORROSIVE, N.O.S. (N,N-

Dimethylpiperazine)

UN NUMBER: 2924 CLASS: 3 (8) PACKING GROUP: II

EMS-NO: F-E, S-C

IATA

PROPER SHIPPING NAME: FLAMMABLE LIQUIDS, CORROSIVE, N.O.S. (N,N-

Dimethylpiperazine)

UN NUMBER: 2924 CLASS: 3 (8) PACKING GROUP: II

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 (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

SARA 311/312 HAZARDS FIRE HAZARD, ACUTE HEALTH HAZARD

MASSACHUSETTS RIGHT TO KNOW COMPONENTS

NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT.

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

N,N'-Dimethylpiperazine 106-58-1

NEW JERSEY RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

N,*N*'-Dimethylpiperazine 106-58-1

SECTION 16. OTHER INFORMATION

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

H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR.

H302 HARMFUL IF SWALLOWED.

H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

H402 HARMFUL TO AQUATIC LIFE.

MSDS LEGEND

MW: MOLECULAR WEIGHT
MF: MOLECULAR FORMULA

VOC: VOLATILE ORGANIC COMPOUNDS

ACGIH: AMERICAN CONFERENCE OF GOVERNMENENTAL INDUSTRIAL

HYGINISTS

CAS: CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

PEL: PERMISSIBLE EXPOSURE LIMIT (OSHA) TLV: THRESHOLD LIMIT VALUE (ACGIH)

IMPORTANT:

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