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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

| | |
|---------------------------------|---|
| CATALOG #: | 27222 |
| NAME: | 1-Pentyne |
| SYNONYMS: | Pent-1-yne |
| 24 HOUR EMERGENCY TELEPHONE: | (800) 535-5053(USA) 352-323-3500 (INTERNATIONAL) |
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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
SKIN IRRITATION (CATEGORY 2), H315
EYE IRRITATION (CATEGORY 2A), H319
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (CATEGORY 3),
RESPIRATORY SYSTEM, H335

ASPIRATION HAZARD (CATEGORY 1), H304

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.
H304 MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.
H315 CAUSES SKIN IRRITATION.
H319 CAUSES SERIOUS EYE IRRITATION.
H335 MAY CAUSE RESPIRATORY IRRITATION.

PRECAUTIONARY STATEMENT(S)

P210 KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. - 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.
P261 AVOID BREATHING DUST/ FUME/ GAS/ MIST/ VAPOURS/ SPRAY.
P264 WASH SKIN THOROUGHLY AFTER HANDLING.
P271 USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA.
P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION.
P301 + P310 IF SWALLOWED: IMMEDIATELY CALL A POISON CENTER OR DOCTOR/ PHYSICIAN.
P303 + P361 + P353 IF ON SKIN (OR HAIR): REMOVE/ TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER.
P304 + P340 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION 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.
P312 CALL A POISON CENTER OR DOCTOR/ PHYSICIAN IF YOU FEEL UNWELL.
P321 SPECIFIC TREATMENT (SEE SUPPLEMENTAL FIRST AID INSTRUCTIONS ON THIS LABEL).
P331 DO NOT INDUCE VOMITING.
P332 + P313 IF SKIN IRRITATION OCCURS: GET MEDICAL ADVICE/ ATTENTION.
P337 + P313 IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ ATTENTION.
P362 TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE REUSE.

P370 + P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-RESISTANT FOAM FOR EXTINCTION.
P403 + P233 STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED.
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 OTHERWISE CLASSIFIED (HNOC) OR NOT COVERED BY GHS NONE

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: C₅H₈
MW: 68.12
CAS-NO. 627-19-0
PURITY: ≥ 99% (GC)

HAZARDOUS COMPONENTS

| COMPONENT | CLASSIFICATION | CONCENTRATION |
|------------|---|---------------|
| PENT-1-YNE | FLAM. LIQ. 2; SKIN IRRIT. 2; EYE IRRIT. 2A; STOT SE 3; ASP. TOX. 1; H225, H304, H315, H319, H335 | - |

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.

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| 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 | 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

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| SUITABLE EXTINGUISHING MEDIA | FOR SMALL (INCIPIENT) FIRES, USE MEDIA SUCH AS "ALCOHOL" FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. FOR LARGE FIRES, APPLY WATER FROM AS FAR AS POSSIBLE. USE VERY LARGE QUANTITIES (FLOODING) OF WATER APPLIED AS A MIST OR SPRAY; SOLID STREAMS OF WATER MAY BE INEFFECTIVE. COOL ALL AFFECTED CONTAINERS WITH FLOODING QUANTITIES OF WATER. |
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| SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE | CARBON OXIDES |
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| ADVICE FOR FIREFIGHTERS | WEAR SELF CONTAINED BREATHING APPARATUS FOR FIRE FIGHTING IF NECESSARY. |
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| FURTHER INFORMATION | USE WATER SPRAY TO COOL UNOPENED CONTAINERS. |
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SECTION 6. ACCIDENTAL RELEASE MEASURES

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

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| PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES | 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. |
| ENVIRONMENTAL PRECAUTIONS | PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. |
| METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP | CONTAIN SPILLAGE, AND THEN COLLECT WITH AN ELECTRICALLY PROTECTED VACUUM CLEANER OR BY WET-BRUSHING 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

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|---|---|
| PRECAUTIONS FOR SAFE HANDLING | AVOID CONTACT WITH SKIN AND EYES. AVOID INHALATION OF VAPOUR OR MIST. USE EXPLOSION-PROOF EQUIPMENT.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 | STORE IN COOL PLACE. 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. |
| 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

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| COMPONENTS WITH WORKPLACE CONTROL PARAMETERS | CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES. |
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EXPOSURE CONTROLS

APPROPRIATE ENGINEERING CONTROLS HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND AT THE END OF WORKDAY.

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 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.

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 FULL-FACE RESPIRATOR WITH MULTI- PURPOSE COMBINATION (US) OR TYPE AXBEK (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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------|------------------------|
| APPEARANCE | Clear colorless liquid |
| ODOUR | NO DATA AVAILABLE |
| ODOUR THRESHOLD | NO DATA AVAILABLE |
| PH | NO DATA AVAILABLE |

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| MELTING POINT/FREEZING POINT | -106 to -105 °C |
| INITIAL BOILING POINT AND BOILING RANGE | 40 °C |
| FLASH POINT | -20 °C |
| EVAPORATION RATE | NO DATA AVAILABLE |
| FLAMMABILITY (SOLID, GAS) | NO DATA AVAILABLE |
| UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS | NO DATA AVAILABLE |
| VAPOUR PRESSURE | 468.8 HPA (351.6 MMHG) AT 20 °C, 1,647.3 HPA (1,235.6 MMHG) AT 55 °C |
| VAPOUR DENSITY | NO DATA AVAILABLE |
| RELATIVE DENSITY | 0.691 g/mL at 25 °C |
| 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

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|---|---|
| REACTIVITY | NO DATA AVAILABLE |
| CHEMICAL STABILITY | STABLE UNDER RECOMMENDED STORAGE CONDITIONS. |
| POSSIBILITY OF HAZARDOUS REACTIONS | VAPOURS MAY FORM EXPLOSIVE MIXTURE WITH AIR. |
| CONDITIONS TO AVOID | HEAT, FLAMES AND SPARKS. EXTREMES OF TEMPERATURE AND DIRECT SUNLIGHT. |
| INCOMPATIBLE MATERIALS | 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 DERMAL: NO DATA AVAILABLE

**SKIN
CORROSION/IRRITATION** NO DATA AVAILABLE

**SERIOUS EYE
DAMAGE/EYE IRRITATION** NO DATA AVAILABLE

**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.

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** INHALATION - MAY CAUSE RESPIRATORY IRRITATION.

**SPECIFIC TARGET ORGAN
TOXICITY - REPEATED
EXPOSURE** NO DATA AVAILABLE

ASPIRATION HAZARD THE SUBSTANCE OR MIXTURE IS KNOWN TO CAUSE HUMAN ASPIRATION TOXICITY HAZARDS OR HAS TO BE REGARDED AS IF IT CAUSES A HUMAN ASPIRATION TOXICITY HAZARD.

**ADDITIONAL
INFORMATION**

RTECS: NOT AVAILABLE
COUGH, SHORTNESS OF BREATH, HEADACHE,
NAUSEA, VOMITING, TO THE BEST OF OUR
KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN
THOROUGHLY INVESTIGATED.

SECTION 12. ECOLOGICAL INFORMATION

| | |
|---|--|
| TOXICITY | 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 | BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. 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: HYDROCARBONS, LIQUID, N.O.S.
UN NUMBER: 3295
CLASS: 3
PACKING GROUP: II
MARINE POLLUTANT: NO
POISON INHALATION HAZARD: NO

IMDG

PROPER SHIPPING NAME: HYDROCARBONS, LIQUID, N.O.S.
UN NUMBER: 3295
CLASS: 3
PACKING GROUP: II
EMS-NO: F-E, S-D
MARINE POLLUTANT: NO

IATA

PROPER SHIPPING NAME: HYDROCARBONS, LIQUID, N.O.S.
UN NUMBER: 3295
CLASS: 3
PACKING GROUP: II

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS SARA 302: NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III, SECTION 302.

SARA 313 COMPONENTS SARA 313: 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

| | CAS-NO. | REVISION DATE |
|-----------|----------|---------------|
| 1-Pentyne | 627-19-0 | 4/24/1993 |

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

| | CAS-NO. | REVISION DATE |
|-----------|----------|---------------|
| 1-Pentyne | 627-19-0 | 4/24/1993 |

NEW JERSEY RIGHT TO KNOW COMPONENTS

| | CAS-NO. | REVISION DATE |
|--|---------|---------------|
|--|---------|---------------|

1-Pentyne

627-19-0

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.

| | |
|-------------|--|
| ASP. TOX. | ASPIRATION HAZARD |
| EYE IRRIT. | EYE IRRITATION |
| FLAM. LIQ. | FLAMMABLE LIQUIDS |
| H225 | HIGHLY FLAMMABLE LIQUID AND VAPOUR. |
| H304 | MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS. |
| H315 | CAUSES SKIN IRRITATION. |
| H319 | CAUSES SERIOUS EYE IRRITATION. |
| H335 | MAY CAUSE RESPIRATORY IRRITATION. |
| SKIN IRRIT. | SKIN IRRITATION |
| STOT SE | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE |

HMIS RATING

| | |
|------------------------|---|
| HEALTH HAZARD: | 2 |
| CHRONIC HEALTH HAZARD: | |
| FLAMMABILITY: | 3 |
| PHYSICAL HAZARD | 0 |

NFPA RATING

| | |
|--------------------|---|
| HEALTH HAZARD: | 2 |
| FIRE HAZARD: | 3 |
| 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 SERIVE REGISTRY NUMBER |
| OSHA: | OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION |
| PEL: | PERMISSIBLE EXPOSURE LIMIT (OSHA) |
| TLV: | THRESHOLD LIMIT VALUE (ACGIH) |

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