# Chem-Impex International Inc.

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# SAFETY DATA SHEET

# SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 00082

NAME: Crystal Violet

SYNONYMS: Basic violet 3

Gentian violet

Methyl violet 10B [Hexamethylpararosaniline chloride]

CI 42555

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) ACUTE TOXICITY, ORAL (CATEGORY 4), H302 SERIOUS EYE DAMAGE (CATEGORY 1), H318 CARCINOGENICITY (CATEGORY 2), H351 ACUTE AQUATIC TOXICITY (CATEGORY 1), H400 CHRONIC AQUATIC TOXICITY (CATEGORY 1), H410

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)

H302 HARMFUL IF SWALLOWED.
 H318 CAUSES SERIOUS EYE DAMAGE.
 H351 SUSPECTED OF CAUSING CANCER.

H410 VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING

EFFECTS.

PRECAUTIONARY STATEMENT(S)

P201 OBTAIN SPECIAL INSTRUCTIONS BEFORE USE.

P202 DO NOT HANDLE UNTIL ALL SAFETY PRECAUTIONS HAVE

BEEN READ AND UNDERSTOOD.

P264 WASH SKIN THOROUGHLY AFTER HANDLING. P270 DO NOT EAT, DRINK OR SMOKE WHEN USING THIS

PRODUCT.

P273 AVOID RELEASE TO THE ENVIRONMENT.
P280 WEAR EYE PROTECTION/ FACE PROTECTION.

P281 USE PERSONAL PROTECTIVE EQUIPMENT AS REQUIRED. P301 + P312 + P330 IF SWALLOWED: CALL A POISON CENTER OR DOCTOR/

PHYSICIAN IF YOU FEEL UNWELL. RINSE MOUTH.

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 OR DOCTOR/PHYSICIAN.

P308 + P313 IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/

ATTENTION.

P391 COLLECT SPILLAGE. 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:  $C_{25}H_{30}N_3Cl$ 

MW: 407.99

CAS-NO. 548-62-9

PURITY: 96.0-100.5% (Titration)

#### **HAZARDOUS COMPONENTS**

| COMPONENT  | CLASSIFICATION            | CONCENTRATION |
|--|---------------------------|---------------|
| C.I. BASIC VIOLET 3 INCLUDED IN THE CANDIDATE LIST OF SUBSTANCES OF VERY |                           |               |
| HIGH CONCERN (SVHC) ACCORDING TO REGULATION (EC) NO. 1907/2006 (REACH)   |                           |               |
|  |                           |               |
|  | ACUTE TOX. 4; EYE DAM. 1; | <= 100 %      |
|  | CARC. 2; AQUATIC ACUTE 1; |               |
|  | AQUATIC CHRONIC 1;        |               |
|  | H302, H318, H351, H410    |               |

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 WASH OFF WITH SOAP AND PLENTY OF WATER.

**CONTACT** CONSULT A PHYSICIAN.

IN CASE OF EYE
RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT
CONTACT
LEAST 15 MINUTES AND CONSULT A PHYSICIAN.

ELIST IS WING TESTING CONSOLITATITISICIAN.

**IF SWALLOWED** NEVER GIVE ANYTHING BY MOUTH TO AN

UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER.

CONSULT A PHYSICIAN.

MOST IMPORTANT SYMPTOMS AND THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE

SECTION 2.2) AND/OR IN SECTION 11

EFFECTS, BOTH ACUTE AND DELAYED

INDICATION OF ANY

IMMEDIATE MEDICAL ATTENTION AND

NO DATA AVAILABLE

#### SECTION 5. FIRE AND EXPLOSION DATA

**EXTINGUISHING MEDIA** 

SUITABLE USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY

**EXTINGUISHING MEDIA** CHEMICAL OR CARBON DIOXIDE.

SPECIAL HAZARDS CARBON OXIDES, NITROGEN OXIDES (NOX),

ARISING FROM THE HYDROGEN CHLORIDE GAS

SUBSTANCE OR MIXTURE

ADVICE FOR WEAR SELF-CONTAINED BREATHING APPARATUS FOR

**FIREFIGHTERS** FIREFIGHTING IF NECESSARY.

FURTHER INFORMATION NO DATA AVAILABLE

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONALUSE PERSONAL PROTECTIVE EQUIPMENT. AVOIDPRECAUTIONS,DUST FORMATION. AVOID BREATHING VAPOURS, MIST

**PROTECTIVE** OR GAS. ENSURE ADEQUATE VENTILATION. **EQUIPMENT AND** EVACUATE PERSONNEL TO SAFE AREAS. AVOID

**EMERGENCY** BREATHING DUST.

**PROCEDURES** FOR PERSONAL PROTECTION SEE SECTION 8.

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

DISCHARGE INTO THE ENVIRONMENT MUST BE

AVOIDED.

METHODS AND PICK UP AND ARRANGE DISPOSAL WITHOUT

MATERIALS FORCREATING DUST. SWEEP UP AND SHOVEL. KEEP INCONTAINMENT ANDSUITABLE, CLOSED CONTAINERS FOR DISPOSAL.

CLEANING UP

REFERENCE TO OTHER

**SECTIONS** 

FOR DISPOSAL SEE SECTION 13.

#### SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE

HANDLING

AVOID CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS.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.

PROVIDE APPROPRIATE EXHAUST VENTILATION AT

PLACES WHERE DUST IS FORMED. FOR PRECAUTIONS SEE SECTION 2.2.

CONDITIONS FOR SAFE STORAGE, INCLUDING

KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND

WELL-VENTILATED PLACE.

LIGHT SENSITIVE. KEEP IN A DRY PLACE. ANY INCOMPATIBILITIES

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 EXPOSURE LIMIT VALUES. **PARAMETERS** 

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL

#### **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.

FULL CONTACT MATERIAL: NITRILE RUBBER MINIMUM LAYER THICKNESS: 0.11 MM BREAK THROUGH TIME: 480 MIN MATERIAL TESTED: DERMATRIL (KCL 740, SIZE M)

SPLASH CONTACT
MATERIAL: NITRILE RUBBER
MINIMUM LAYER THICKNESS: 0.11 MM
BREAK THROUGH TIME: 480 MIN
MATERIAL TESTED:DERMATRIL (KCL 740, SIZE M)

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.

# **BODY PROTECTION**

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.

# 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
ODOUR
ODOUR
ODOUR THRESHOLD
PH
Dark green crystalline powder
NO DATA AVAILABLE
NO DATA AVAILABLE
2.5 - 3.5 AT 10 G/L AT 20 C

**MELTING** 

POINT/FREEZING POINT INITIAL BOILING POINT AND BOILING RANGE

FLASH POINT

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

GAS)

UPPER/LOWER NO DATA AVAILABLE

FLAMMABILITY OR EXPLOSIVE LIMITS

VAPOUR PRESSURE NO DATA AVAILABLE VAPOUR DENSITY NO DATA AVAILABLE

RELATIVE DENSITY

WATER SOLUBILITY 50 G/L AT 27 C

PARTITION COEFFICIENT: LOG POW: 1.172 AT 25 C

N- OCTANOL/WATER

AUTO-IGNITION > 190 C

TEMPERATURE

DECOMPOSITION NO DATA AVAILABLE

TEMPERATURE

VISCOSITY NO DATA AVAILABLE EXPLOSIVE PROPERTIES NO DATA AVAILABLE OXIDIZING PROPERTIES NO DATA AVAILABLE

OTHER SAFETY INFORMATION

BULK DENSITY 220 - 400 KG/M3 SURFACE TENSION 44.2 MN/M

#### 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 NO DATA AVAILABLE

**INCOMPATIBLE** STRONG OXIDIZING AGENTS

MATERIALS

HAZARDOUS OTHER DECOMPOSITION PRODUCTS - NO DATA

**DECOMPOSITION** AVAILABLE

**PRODUCTS** IN THE EVENT OF FIRE: SEE SECTION 5

#### **SECTION 11. TOXICOLOGICAL INFORMATION**

#### INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY LD50 ORAL - MOUSE - 96 MG/KG

LD50 ORAL - RABBIT - 150 MG/KG INHALATION: NO DATA AVAILABLE DERMAL: NO DATA AVAILABLE

LD50 INTRAPERITONEAL - RAT - 8.9 MG/KG LD50 INTRAPERITONEAL - MOUSE - 5.1 MG/KG LD50 INTRAPERITONEAL - RABBIT - 5 MG/KG LD50 LD50 INTRADUODENAL - RABBIT - 160 MG/KG

**SKIN** NO DATA AVAILABLE

**CORROSION/IRRITATION** 

**SERIOUS EYE** SEVERE EYE IRRITATION

DAMAGE/EYE IRRITATION

**RESPIRATORY OR SKIN** NO DATA AVAILABLE

SENSITISATION

GERM CELL MUTAGENICITY HUMAN HELA CELL DNA INHIBITION

HUMAN HELA CELL

CYTOGENETIC ANALYSIS

**HUMAN** 

LYMPHOCYTE

CYTOGENETIC ANALYSIS

RAT LIVER

**DNA INHIBITION** 

**MOUSE** 

LYMPHOCYTE DNA DAMAGE

HAMSTER OVARY

CYTOGENETIC ANALYSIS

MAMMAL LYMPHOCYTE DNA DAMAGE

MAMMAL

OTHER CELL TYPES CYTOGENETIC ANALYSIS

NON-MAMMALIAN OTHER CELL TYPES CYTOGENETIC ANALYSIS

RESULT: EQUIVOCAL EVIDENCE. HISTIDINE REVERSION (AMES)

**CARCINOGENICITY** 

IARC:

LIMITED EVIDENCE OF A CARCINOGENIC EFFECT. 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. NO COMPONENT OF THIS PRODUCT PRESENT AT

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.

CARCINOGEN BY

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 RTECS: BO9000000

**INFORMATION** PROLONGED OR REPEATED EXPOSURE CAN CAUSE;

NAUSEA, HEADACHE, VOMITING

# SECTION 12. ECOLOGICAL INFORMATION

**TOXICITY** 

TOXICITY TO DAPHNIA AND

EC50 - DAPHNIA MAGNA (WATER FLEA) - 0.35 MG/L -

OTHER AQUATIC

48 H

INVERTEBRATES (OECD TEST GUIDELINE 202)

TOXICITY TO ALGAE EC50 -

EC50 - PSEUDOKIRCHNERIELLA SUBCAPITATA - 0.42

MG/L - 72 H

(OECD TEST GUIDELINE 201)

PERSISTENCE AND DEGRADABILITY

BIODEGRADABILITY RESULT: 10 % - NOT READILY BIODEGRADABLE.

RATIO BOD/THBOD 0.0012

BIOACCUMULATIVE

**POTENTIAL** 

NO DATA AVAILABLE

MOBILITY IN SOIL NO DATA AVAILABLE

**RESULTS OF PBT AND**PBT/VPVB ASSESSMENT NOT AVAILABLE AS

VPVB ASSESSMENT CHEMICAL SAFETY ASSESSMENT NOT

REQUIRED/NOT CONDUCTED

OTHER ADVERSE EFFECTS AN ENVIRONMENTAL HAZARD CANNOT BE

EXCLUDED IN THE EVENT OF UNPROFESSIONAL HANDLING OR DISPOSAL. VERY TOXIC TO AQUATIC

LIFE WITH LONG LASTING EFFECTS.

#### SECTION 13. DISPOSAL CONSIDERATIONS

#### WASTE TREATMENT METHODS

**PRODUCT** OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS

TO A LICENSED DISPOSAL COMPANY. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN

AFTERBURNER AND SCRUBBER.

CONTAMINATED PACKAGING

DISPOSE OF AS UNUSED PRODUCT.

# SECTION 14. TRANSPORT INFORMATION

DOT (US)

NOT DANGEROUS GOODS

**IMDG** 

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE,

SOLID, N.O.S.(Crystal Violet)

UN NUMBER: 3077
CLASS: 9
PACKING GROUP: III
EMS-NO: F-A, S-F
MARINE POLLUTANT: YES

**IATA** 

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE,

SOLID, N.O.S.(Crystal Violet)

UN NUMBER: 3077 CLASS: 9 PACKING GROUP: III

**FURTHER INFORMATION** EHS-MARK REQUIRED (ADR 2,2.9.1.10, IMDG CODE

2.10.3) FOR SINGLE PACKAGINGS AND COMBINATION PACKAGINGS CONTAINING INNER PACKAGINGS WITH DANGEROUS GOODS > 5L FOR LIQUIDS OR > 5KG FOR

SOLIDS.

#### **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.

SARA 311/312 HAZARDS ACUTE HEALTH HAZARD, CHRONIC HEALTH HAZARD

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

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

Crystal Violet 548-62-9

NEW JERSEY RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

Crystal Violet 548-62-9

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.

ACUTE TOX. ACUTE TOXICITY

AQUATIC ACUTE ACUTE AQUATIC TOXICITY
AQUATIC CHRONIC CHRONIC AQUATIC TOXICITY

CARC. CARCINOGENICITY
EYE DAM. SERIOUS EYE DAMAGE
H302 HARMFUL IF SWALLOWED.
H318 CAUSES SERIOUS EYE DAMAGE.
H351 SUSPECTED OF CAUSING CANCER.
H400 VERY TOXIC TO AQUATIC LIFE.

H410 VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING

EFFECTS.

**HMIS RATING** 

HEALTH HAZARD: 2 CHRONIC HEALTH \*

HAZARD:

FLAMMABILITY: 0 PHYSICAL HAZARD 0

#### NFPA RATING

HEALTH HAZARD: 2 FIRE HAZARD: 0 REACTIVITY HAZARD: 0

#### 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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