

# *Chem-Impex International Inc.*

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825 Dillon Drive  
Wood Dale, IL 60191 USA

## SAFETY DATA SHEET

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### SECTION 1. CHEMICAL IDENTIFICATION

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CATALOG #:	10099
NAME:	Tosyl-L-Phenylalanine chloromethylketone
SYNONYMS:	Tos-L-Phe-CMK TPCK
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

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#### CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

**GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)**  
SKIN IRRITATION (CATEGORY 2), H315  
SERIOUS EYE DAMAGE (CATEGORY 1), H318  
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (CATEGORY 3),  
RESPIRATORY SYSTEM, H335

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)

H315 CAUSES SKIN IRRITATION.  
H318 CAUSES SERIOUS EYE DAMAGE.  
H335 MAY CAUSE RESPIRATORY IRRITATION.

PRECAUTIONARY STATEMENT(S)

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/ EYE PROTECTION/ FACE  
PROTECTION.  
P302 + P352 IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER.  
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.  
P310 IMMEDIATELY CALL A POISON CENTER OR DOCTOR/  
PHYSICIAN.  
P321 SPECIFIC TREATMENT (SEE SUPPLEMENTAL FIRST AID  
INSTRUCTIONS ON THIS LABEL).  
P332 + P313 IF SKIN IRRITATION OCCURS: GET MEDICAL ADVICE/  
ATTENTION.  
P362 TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE  
REUSE.  
P403 + P233 STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER  
TIGHTLY CLOSED.  
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

MF: C<sub>17</sub>H<sub>18</sub>ClNO<sub>3</sub>S

MW: 351.85

CAS-NO. 402-71-1

PURITY: ≥ 98% (TLC)

#### HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
Tosyl-L-Phenylalanine chloromethylketone		
	SKIN IRRIT. 2; EYE DAM. 1; STOT SE 3; H315, H318, H335	

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

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## SECTION 4. FIRST-AID MEASURES

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### DESCRIPTION OF FIRST AID MEASURES

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

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## **SECTION 5. FIRE AND EXPLOSION DATA**

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### **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, NITROGEN OXIDES (NOX), SULPHUR OXIDES, HYDROGEN CHLORIDE GAS

**ADVICE FOR FIREFIGHTERS** WEAR SELF CONTAINED BREATHING APPARATUS FOR FIRE FIGHTING IF NECESSARY.

**FURTHER INFORMATION** NO DATA AVAILABLE

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

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**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.

**ENVIRONMENTAL PRECAUTIONS** DO NOT LET PRODUCT ENTER DRAINS.

**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.

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## **SECTION 7. HANDLING AND STORAGE**

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**PRECAUTIONS FOR SAFE HANDLING** AVOID CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS. PROVIDE APPROPRIATE EXHAUST VENTILATION AT PLACES WHERE DUST IS FORMED. FOR PRECAUTIONS SEE SECTION 2.2.

<b>CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES</b>	KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE. RECOMMENDED STORAGE TEMPERATURE: -20 C KEEP IN A DRY PLACE.
<b>SPECIFIC END USE(S)</b>	APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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### **CONTROL PARAMETERS**

<b>COMPONENTS WITH WORKPLACE CONTROL PARAMETERS</b>	CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.
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### **EXPOSURE CONTROLS**

<b>APPROPRIATE ENGINEERING CONTROLS</b>	HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND AT THE END OF WORKDAY.
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### **PERSONAL PROTECTIVE EQUIPMENT**

<b>EYE/FACE PROTECTION</b>	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).
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**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**

DO NOT LET PRODUCT ENTER DRAINS.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

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**INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE	White powder
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	106 - 110 °C
INITIAL BOILING POINT AND BOILING RANGE	
FLASH POINT	
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	
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
<b>OTHER SAFETY INFORMATION</b>	NO DATA AVAILABLE

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**SECTION 10. STABILITY AND REACTIVITY**

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<b>REACTIVITY</b>	NO DATA AVAILABLE
<b>CHEMICAL STABILITY</b>	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
<b>POSSIBILITY OF HAZARDOUS REACTIONS</b>	NO DATA AVAILABLE
<b>CONDITIONS TO AVOID</b>	NO DATA AVAILABLE

**INCOMPATIBLE  
MATERIALS**

STRONG OXIDIZING AGENTS

**HAZARDOUS  
DECOMPOSITION  
PRODUCTS**

OTHER DECOMPOSITION PRODUCTS - NO DATA  
AVAILABLE  
IN THE EVENT OF FIRE: SEE SECTION 5

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

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### **INFORMATION ON TOXICOLOGICAL EFFECTS**

**ACUTE TOXICITY**

NO DATA AVAILABLE  
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**

REPRODUCTIVE TOXICITY - MOUSE INTRAUTERINE  
EFFECTS ON FERTILITY: PRE-IMPLANTATION  
MORTALITY (E.G., REDUCTION IN NUMBER OF  
IMPLANTS PER FEMALE; TOTAL NUMBER OF  
IMPLANTS PER CORPORA LUTEA).



<b>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE</b>	INHALATION - MAY CAUSE RESPIRATORY IRRITATION.
<b>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE</b>	NO DATA AVAILABLE
<b>ASPIRATION HAZARD</b>	NO DATA AVAILABLE
<b>ADDITIONAL INFORMATION</b>	RTECS: XT5613500 COUGH, SHORTNESS OF BREATH, HEADACHE, NAUSEA, VOMITING, TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

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**SECTION 12. ECOLOGICAL INFORMATION**

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<b>TOXICITY</b>	NO DATA AVAILABLE
<b>PERSISTENCE AND DEGRADABILITY</b>	NO DATA AVAILABLE
<b>BIOACCUMULATIVE POTENTIAL</b>	NO DATA AVAILABLE
<b>MOBILITY IN SOIL</b>	NO DATA AVAILABLE
<b>RESULTS OF PBT AND VPVB ASSESSMENT</b>	PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED
<b>OTHER ADVERSE EFFECTS</b>	NO DATA AVAILABLE

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**SECTION 13. DISPOSAL CONSIDERATIONS**

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**WASTE TREATMENT METHODS**

<b>PRODUCT</b>	OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.
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**CONTAMINATED  
PACKAGING**

DISPOSE OF AS UNUSED PRODUCT.

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**SECTION 14. TRANSPORT INFORMATION**

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**DOT (US)**

PROPER SHIPPING NAME: AVIATION REGULATED SOLID, N.O.S.(Tosyl-L-Phenylalanine chloromethylketone)  
UN NUMBER: 3335  
CLASS: 9  
MARINE POLLUTANT: NO  
POISON INHALATION: NO  
HAZARD:

**IMDG**

NOT DANGEROUS GOODS

**IATA**

PROPER SHIPPING NAME: AVIATION REGULATED SOLID, N.O.S.(Tosyl-L-Phenylalanine chloromethylketone)  
UN NUMBER: 3335  
CLASS: 9  
PACKING GROUP: III

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**SECTION 15. REGULATORY INFORMATION**

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**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** 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
Tosyl-L-Phenylalanine chloromethylketone	402-71-1	

**NEW JERSEY RIGHT TO KNOW COMPONENTS**

Tosyl-L-Phenylalanine  
chloromethylketone

CAS-NO.  
402-71-1

REVISION DATE

**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.

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**SECTION 16. OTHER INFORMATION**

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

EYE DAM.	SERIOUS EYE DAMAGE
H315	CAUSES SKIN IRRITATION.
H318	CAUSES SERIOUS EYE DAMAGE.
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:	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 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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