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825 Dillon Drive  
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## **SAFETY DATA SHEET**

### **SECTION 1. CHEMICAL IDENTIFICATION**

CATALOG #:	02295
NAME:	Citraconic anhydride
SYNONYMS:	2-Methylmaleic anhydride 3-Methyl-2,5-pentanedione
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, DERMAL (CATEGORY 3), H311  
SKIN CORROSION (CATEGORY 1B), H314  
EYE IRRITATION (CATEGORY 2A), H319  
RESPIRATORY SENSITISATION (CATEGORY 1), H334  
SKIN SENSITISATION (CATEGORY 1), H317

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)**

H311 TOXIC IN CONTACT WITH SKIN.  
H314 CAUSES SEVERE SKIN BURNS AND EYE  
DAMAGE.  
H317 MAY CAUSE AN ALLERGIC SKIN REACTION.  
H334 MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS  
OR BREATHING DIFFICULTIES IF INHALED.  
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.  
P272 CONTAMINATED WORK CLOTHING SHOULD NOT  
BE ALLOWED OUT OF THE WORKPLACE.  
P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE  
CLOTHING/ EYE PROTECTION/ FACE  
PROTECTION.  
P285 IN CASE OF INADEQUATE VENTILATION WEAR  
RESPIRATORY PROTECTION. 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 IF INHALED: REMOVE VICTIM TO FRESH AIR  
AND KEEP AT REST IN A POSITION  
COMFORTABLE FOR BREATHING.  
P310 IMMEDIATELY CALL A POISON CENTER OR  
DOCTOR/ PHYSICIAN.  
P305 + P351 + P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER  
FOR SEVERAL MINUTES. REMOVE CONTACT  
LENSES, IF PRESENT AND EASY TO DO.  
CONTINUE RINSING.  
P322 SPECIFIC MEASURES (SEE SUPPLEMENTAL FIRST  
AID INSTRUCTIONS ON THIS LABEL).  
P333 + P313 IF SKIN IRRITATION OR RASH OCCURS: GET  
MEDICAL ADVICE/ ATTENTION.  
P337 + P313 IF EYE IRRITATION PERSISTS: GET MEDICAL  
ADVICE/ ATTENTION.  
P361 REMOVE/TAKE OFF IMMEDIATELY ALL  
CONTAMINATED CLOTHING.

P363	WASH CONTAMINATED CLOTHING 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

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### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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MF:	C <sub>5</sub> H <sub>4</sub> O <sub>3</sub>
MW:	112.80
CAS-NO.	616-02-4
PURITY:	≥ 99% (GC)

#### HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
Citraconic anhydride		
	ACUTE TOX. 3; SKIN CORR. 1B; EYE IRRIT. 2A; RESP. SENS. 1; SKIN SENS. 1; STOT SE 3; H311, H314, H317, H334, 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

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	WASH OFF WITH SOAP AND PLENTY OF WATER. TAKE VICTIM IMMEDIATELY TO HOSPITAL. 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	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

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## SECTION 5. FIRE AND EXPLOSION DATA

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<b>EXTINGUISHING MEDIA</b>	
SUITABLE EXTINGUISHING MEDIA	USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY CHEMICAL OR CARBON DIOXIDE.
SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	CARBON OXIDES
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	WEAR RESPIRATORY PROTECTION. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. EVACUATE PERSONNEL TO SAFE AREAS.
ENVIRONMENTAL PRECAUTIONS METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP	FOR PERSONAL PROTECTION SEE SECTION 8. PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. SOAK UP WITH INERT ABSORBENT MATERIAL AND DISPOSE OF AS HAZARDOUS WASTE. 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 INHALATION OF VAPOUR OR MIST. FOR PRECAUTIONS
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CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES	SEE SECTION 2.2. 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 UNDER INERT GAS. MOISTURE SENSITIVE.
SPECIFIC END USE(S)	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**

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

APPROPRIATE ENGINEERING CONTROLS	AVOID CONTACT WITH SKIN, EYES AND CLOTHING. WASH HANDS BEFORE BREAKS AND IMMEDIATELY AFTER HANDLING THE PRODUCT.
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, 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 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.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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### INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Colorless to pale yellow liquid
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	6-10 °C
POINT/FREEZING POINT	
BOILING POINT	213-214 °C
FLASH POINT	101 °C
EVAPOURATION 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	3.87 - (AIR = 1.0)
RELATIVE DENSITY	1.247 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	
RELATIVE VAPOUR DENSITY	3.87 - (AIR = 1.0)

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## SECTION 10. STABILITY AND REACTIVITY

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REACTIVITY	NO DATA AVAILABLE
CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONS	NO DATA AVAILABLE
CONDITIONS TO AVOID INCOMPATIBLE MATERIALS	NO DATA AVAILABLE BASES, OXIDIZING AGENTS, REDUCING 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	LD50 ORAL - RAT - 2,600 MG/KG
	LD50 DERMAL - RABBIT - 218 MG/KG
SKIN	NO DATA AVAILABLE
CORROSION/IRRITATION	NO DATA AVAILABLE
SERIOUS EYE	NO DATA AVAILABLE
DAMAGE/EYE IRRITATION	
RESPIRATORY OR SKIN	
SENSITISATION	
GERM CELL	NO DATA AVAILABLE
MUTAGENICITY	
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	INHALATION - MAY CAUSE RESPIRATORY IRRITATION.
TOXICITY - SINGLE	
EXPOSURE	
SPECIFIC TARGET ORGAN	NO DATA AVAILABLE
TOXICITY - REPEATED	
EXPOSURE	
ASPIRATION HAZARD	NO DATA AVAILABLE

ADDITIONAL  
INFORMATION

RTECS: GE6825000

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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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
RESULTS OF PBT AND VPVB ASSESSMENT	NO DATA AVAILABLE
OTHER ADVERSE EFFECTS	NO DATA AVAILABLE

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**SECTION 13. DISPOSAL CONSIDERATIONS**

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**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.
CONTAMINATED PACKAGING	DISPOSE OF AS UNUSED PRODUCT.

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**SECTION 14. TRANSPORT INFORMATION**

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**DOT (US)**

PROPER SHIPPING NAME:	TOXIC, LIQUIDS, ORGANIC, N.O.S. (Citraconic anhydride)
UN NUMBER:	2810
CLASS:	6.1
PACKING GROUP:	III
MARINE POLLUTANT:	NO
POISON INHALATION HAZARD:	NO



**IMDG**

PROPER SHIPPING NAME: TOXIC LIQUID, ORGANIC, N.O.S. (Citraconic anhydride)  
 UN NUMBER: 2810  
 CLASS: 6.1  
 PACKING GROUP: III  
 EMS-NO: F-A, S-A  
 MARINE POLLUTANT: NO

**IATA**

PROPER SHIPPING NAME: TOXIC LIQUID, ORGANIC, N.O.S. (Citraconic anhydride)  
 UN NUMBER: 2810  
 CLASS: 6.1  
 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 #	REVISION DATE
Citraconic anhydride	616-02-4	
NEW JERSEY RIGHT TO KNOW COMPONENTS	CAS #	REVISION DATE
Citraconic anhydride	616-02-4	
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.**

ACUTE TOX.	ACUTE TOXICITY
EYE IRRIT.	EYE IRRITATION
H311	TOXIC IN CONTACT WITH SKIN.
H314	CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.
H317	MAY CAUSE AN ALLERGIC SKIN REACTION.
H319	CAUSES SERIOUS EYE IRRITATION.
H334	MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED.
H335	MAY CAUSE RESPIRATORY IRRITATION.
RESP. SENS.	RESPIRATORY SENSITISATION

SKIN CORR. SKIN CORROSION

HMIS RATING	
HEALTH HAZARD:	2
CHRONIC HEALTH HAZARD:	0
FLAMMABILITY:	1
PHYSICAL HAZARD	0
NFPA RATING	
HEALTH HAZARD:	2
FIRE HAZARD:	1
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)

#### IMPORTANT:

*THE INFORMATION ABOVE IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. IN NO EVENT SHALL **CII** BE LIABLE FOR ANY CLAIMS, LOSSES, OR DAMAGES OF ANY THIRD PARTY OR FOR LOST PROFITS OR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES, HOWSOEVER ARISING, EVEN IF **CII** HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.*