

# *Chem-Impex International Inc.*

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## SAFETY DATA SHEET

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### SECTION 1. CHEMICAL IDENTIFICATION

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CATALOG #: 31871

NAME: Di-tert-butyl pyrocarbonate, 90% in THF

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

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#### CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

#### GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)

FLAMMABLE LIQUIDS (CATEGORY 2), H225  
ACUTE TOXICITY, INHALATION (CATEGORY 1), H330  
SKIN IRRITATION (CATEGORY 2), H315  
SERIOUS EYE DAMAGE (CATEGORY 1), H318  
SKIN SENSITISATION (CATEGORY 1), H317

CARCINOGENICITY (CATEGORY 2), H351  
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (CATEGORY 3),  
RESPIRATORY SYSTEM, CENTRAL NERVOUS SYSTEM, H335, H336

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.  
H315 CAUSES SKIN IRRITATION.  
H317 MAY CAUSE AN ALLERGIC SKIN REACTION.  
H318 CAUSES SERIOUS EYE DAMAGE.  
H330 FATAL IF INHALED.  
H335 MAY CAUSE RESPIRATORY IRRITATION.  
H336 MAY CAUSE DROWSINESS OR DIZZINESS.  
H351 SUSPECTED OF CAUSING CANCER.

**PRECAUTIONARY STATEMENT(S)**

P201 OBTAIN SPECIAL INSTRUCTIONS BEFORE USE.  
P202 DO NOT HANDLE UNTIL ALL SAFETY PRECAUTIONS HAVE  
BEEN READ AND UNDERSTOOD.  
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.  
P260 DO NOT BREATHE 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.  
P284 WEAR RESPIRATORY PROTECTION.  
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 +  
P310 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL  
MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND  
EASY TO DO. CONTINUE RINSING. IMMEDIATELY CALL A  
POISON CENTER/DOCTOR.

P308 + P313	IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ ATTENTION.
P333 + P313	IF SKIN IRRITATION OR RASH OCCURS: 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

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### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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MF:

MW:

CAS-NO.                      24424-99-5

PURITY:

COMPONENT	CLASSIFICATION	CONCENTRATION
<b>TETRAHYDROFURAN</b>		
	FLAM. LIQ. 2; ACUTE TOX. 4; EYE IRRIT. 2A; CARC. 2; STOT SE 3; H225, H302, H319, H351, H335, H336 CONCENTRATION LIMITS: >= 25 %: EYE IRRIT. 2, H319; >= 25 %: STOT SE 3, H335	90%
<b>DI(TERT-BUTYL) CARBONATE</b>		
	FLAM. LIQ. 3; ACUTE TOX. 1; SKIN IRRIT. 2; EYE DAM. 1; SKIN SENS. 1; STOT SE 3; H226, H330, H315, H318, H317, H335	10%

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. TAKE VICTIM IMMEDIATELY TO HOSPITAL. 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>	DO NOT INDUCE VOMITING. 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

<b>SUITABLE EXTINGUISHING MEDIA</b>	USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY CHEMICAL OR CARBON DIOXIDE.
<b>SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE</b>	CARBON OXIDES
<b>ADVICE FOR FIREFIGHTERS</b>	WEAR SELF-CONTAINED BREATHING APPARATUS FOR FIREFIGHTING IF NECESSARY.
<b>FURTHER INFORMATION</b>	USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

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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. 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.

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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. USE EXPLOSION-PROOF EQUIPMENT. KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING. TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE.

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

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 UNDER INERT GAS. HANDLE AND OPEN CONTAINER WITH CARE. DRY RESIDUE IS EXPLOSIVE. DRY RESIDUE IS EXPLOSIVE. STORE UNDER INERT GAS. TEST FOR PEROXIDE FORMATION PERIODICALLY AND BEFORE DISTILLATION.

**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**

COMPONENT	CAS-NO.	VALUE	CONTROL PARAMETERS	BASIS
TETRAHYDROFURAN	109-99-9	TWA	50 PPM	USA. ACGIH THRESHOLD LIMIT VALUES (TLV)
	REMARKS	CONFIRMED ANIMAL CARCINOGEN WITH UNKNOWN RELEVANCE TO HUMANS DANGER OF CUTANEOUS ABSORPTION		
		STEL	100 PPM	USA. ACGIH THRESHOLD LIMIT VALUES (TLV)
		CONFIRMED ANIMAL CARCINOGEN WITH UNKNOWN RELEVANCE TO HUMANS DANGER OF CUTANEOUS ABSORPTION		
		ST	250 PPM 735 MG/M3	USA. NIOSH RECOMMENDED EXPOSURE LIMITS
		TWA	200 PPM 590 MG/M3	USA. NIOSH RECOMMENDED EXPOSURE LIMITS
		TWA	200 PPM 590 MG/M3	USA. OCCUPATIONAL EXPOSURE LIMITS (OSHA) - TABLE Z-1 LIMITS FOR AIR CONTAMINANTS
		TWA	200 PPM 590 MG/M3	USA. OSHA - TABLE Z-1 LIMITS FOR AIR CONTAMINANTS - 1910.1000
		STEL	250 PPM 735 MG/M3	USA. OSHA - TABLE Z-1 LIMITS FOR AIR CONTAMINANTS - 1910.1000
		PEL	200 PPM 590 MG/M3	CALIFORNIA PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

		STEL	250 PPM 735 MG/M3	CALIFORNIA PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS
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**BIOLOGICAL OCCUPATIONAL EXPOSURE LIMITS**

COMPONENT	CAS-NO.	PARAMETERS	VALUE	BIOLOGICAL SPECIMEN	BASIS
TETRAHYDROFURAN	109-99-9	TETRAHYDROFURAN	2 MG/L	URINE	ACGIH - BIOLOGICAL EXPOSURE INDICES (BEI)
	REMARKS	END OF SHIFT (AS SOON AS POSSIBLE AFTER EXPOSURE CEASES)			

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**

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: BUTYL-RUBBER

MINIMUM LAYER THICKNESS: 0.3 MM

BREAK THROUGH TIME: 10 MIN

MATERIAL TESTED: BUTOJECT (KCL 897, 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.

<b>BODY PROTECTION</b>	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.
<b>RESPIRATORY PROTECTION</b>	WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULL-FACE RESPIRATOR WITH MULTIPURPOSE 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).
<b>CONTROL OF ENVIRONMENTAL EXPOSURE</b>	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	
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	
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

**OTHER SAFETY INFORMATION** NO DATA AVAILABLE

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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** VAPORS MAY FORM EXPLOSIVE MIXTURE WITH AIR.

**CONDITIONS TO AVOID** HEAT, FLAMES AND SPARKS.

**INCOMPATIBLE MATERIALS** ACIDS, BASES, OXIDIZING AGENTS, REDUCING AGENTS, OXYGEN

**HAZARDOUS DECOMPOSITION PRODUCTS** 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** ACUTE TOXICITY ESTIMATE ORAL - 2,168 MG/KG (CALCULATION METHOD)

ACUTE TOXICITY ESTIMATE INHALATION - 4 H - 0.4183 MG/L (CALCULATION METHOD)

ACUTE TOXICITY ESTIMATE DERMAL - 2,500 MG/KG (CALCULATION METHOD)

NO DATA AVAILABLE

**SKIN CORROSION/IRRITATION** NO DATA AVAILABLE

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

<b>RESPIRATORY OR SKIN SENSITISATION</b>	NO DATA AVAILABLE
<b>GERM CELL MUTAGENICITY</b>	NO DATA AVAILABLE
<b>CARCINOGENICITY</b>	
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.
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 ON OSHA S LIST OF REGULATED CARCINOGENS.
<b>REPRODUCTIVE TOXICITY</b>	NO DATA AVAILABLE
<b>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE</b>	NO DATA AVAILABLE
<b>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE</b>	NO DATA AVAILABLE
<b>ASPIRATION HAZARD</b>	NO DATA AVAILABLE
<b>ADDITIONAL INFORMATION</b>	RTECS: NOT AVAILABLE
	CENTRAL NERVOUS SYSTEM DEPRESSION, COUGH, CHEST PAIN, DIFFICULTY IN BREATHING, EXPOSURE TO HIGH AIRBORNE CONCENTRATIONS CAN CAUSE ANESTHETIC EFFECTS. TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
	STOMACH - IRREGULARITIES - BASED ON HUMAN EVIDENCE
<b>COMPONENTS</b>	
<b>TETRAHYDROFURAN</b>	

<b>ACUTE TOXICITY</b>	<p>LD50 ORAL - RAT - MALE AND FEMALE - 1,650 MG/KG REMARKS: (ECHA) SYMPTOMS: IRRITATION OF MUCOUS MEMBRANES</p> <p>LC50 INHALATION - RAT - MALE AND FEMALE - 4 H - &gt; 16.9 MG/L (US-EPA) SYMPTOMS: MUCOSAL IRRITATIONS, COUGH, SHORTNESS OF BREATH, POSSIBLE DAMAGES: DAMAGE OF RESPIRATORY TRACT</p> <p>INHALATION: IRRITATING TO RESPIRATORY SYSTEM.</p> <p>LD50 DERMAL - RAT - MALE AND FEMALE - &gt; 2,000 MG/KG (OECD TEST GUIDELINE 402)</p> <p>NO DATA AVAILABLE</p>
<b>SKIN CORROSION/IRRITATION</b>	<p>SKIN - RABBIT RESULT: NO SKIN IRRITATION - 72 H (DRAIZE TEST) REPEATED OR PROLONGED EXPOSURE MAY CAUSE SKIN IRRITATION AND DERMATITIS, DUE TO DEGREASING PROPERTIES OF THE PRODUCT.</p>
<b>SERIOUS EYE DAMAGE/EYE IRRITATION</b>	<p>EYES - RABBIT RESULT: EYE IRRITATION REMARKS: (ECHA) (REGULATION (EC) NO 1272/2008, ANNEX VI)</p>
<b>RESPIRATORY OR SKIN SENSITISATION</b>	<p>LOCAL LYMPH NODE ASSAY (LLNA) - MOUSE RESULT: NEGATIVE (OECD TEST GUIDELINE 429)</p>
<b>GERM CELL MUTAGENICITY</b>	<p>IN VIVO TESTS DID NOT SHOW MUTAGENIC EFFECTS IN VITRO MAMMALIAN CELL GENE MUTATION TEST CHINESE HAMSTER OVARY CELLS RESULT: NEGATIVE AMES TEST SALMONELLA TYPHIMURIUM RESULT: NEGATIVE</p>
<b>CARCINOGENICITY</b>	<p>SUSPECTED OF CAUSING CANCER.</p>
IARC:	<p>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.</p>
NTP:	<p>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.</p>

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 TOXICITY TO REPRODUCTION

**SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE** INHALATION - MAY CAUSE RESPIRATORY IRRITATION. - RESPIRATORY SYSTEM  
MAY CAUSE DROWSINESS OR DIZZINESS. - NERVOUS SYSTEM  
ACUTE ORAL TOXICITY - IRRITATION OF MUCOUS MEMBRANES  
ACUTE INHALATION TOXICITY - MUCOSAL IRRITATIONS, COUGH, SHORTNESS OF BREATH,  
POSSIBLE DAMAGES: DAMAGE OF RESPIRATORY TRACT

**SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE** THE SUBSTANCE OR MIXTURE IS NOT CLASSIFIED AS SPECIFIC TARGET ORGAN TOXICANT, REPEATED EXPOSURE.

**ASPIRATION HAZARD** NO ASPIRATION TOXICITY CLASSIFICATION

**DI(TERT-BUTYL) CARBONATE**

**ACUTE TOXICITY** LD50 ORAL - RAT - > 5,000 MG/KG  
REMARKS:  
(EXTERNAL MSDS)

LC50 INHALATION - RAT - 4 H - 0.1 MG/L  
REMARKS:  
(ECHA)

LD50 DERMAL - RABBIT - > 2,000 MG/KG  
REMARKS:  
(EXTERNAL MSDS)

NO DATA AVAILABLE

**SKIN CORROSION/IRRITATION** SKIN - RABBIT  
RESULT: SKIN IRRITATION  
REMARKS:  
(ECHA)

**SERIOUS EYE DAMAGE/EYE IRRITATION** EYES - RAT  
RESULT: CORROSIVE  
REMARKS:  
(ECHA)

**RESPIRATORY OR SKIN SENSITISATION** PATCH TEST: - GUINEA PIG  
RESULT: POSITIVE  
REMARKS:  
(ECHA)

<b>GERM CELL MUTAGENICITY</b>	AMES TEST S. TYPHIMURIUM RESULT: NEGATIVE REMARKS: (ECHA) CHROMOSOME ABERRATION TEST IN VITRO CHINESE HAMSTER FIBROBLASTS RESULT: NEGATIVE IN VITRO MAMMALIAN CELL GENE MUTATION TEST MOUSE LYMPHOMA CELLS RESULT: NEGATIVE OECD TEST GUIDELINE 474 MOUSE RESULT: NEGATIVE
<b>CARCINOGENICITY</b>	NO DATA AVAILABLE
<b>REPRODUCTIVE TOXICITY</b>	NO DATA AVAILABLE
<b>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE</b>	MAY CAUSE RESPIRATORY IRRITATION.
<b>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE</b>	NO DATA AVAILABLE
<b>ASPIRATION HAZARD</b>	NO DATA AVAILABLE

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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 COMPONENTS</b>	NO DATA AVAILABLE

**TETRAHYDROFURAN**

TOXICITY TO FISH	FLOW-THROUGH TEST LC50 - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 2,160 MG/L - 96 H (OECD TEST GUIDELINE 203)
TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES	STATIC TEST EC50 - DAPHNIA MAGNA (WATER FLEA) - 3,485 MG/L - 48 H (OECD TEST GUIDELINE 202)
TOXICITY TO BACTERIA	STATIC TEST EC20 - ACTIVATED SLUDGE - CA. 800 MG/L - 0.5 H (OECD TEST GUIDELINE 209)

**DI(TERT-BUTYL) CARBONATE**  
NO DATA AVAILABLE

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**SECTION 13. DISPOSAL CONSIDERATIONS**

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**WASTE TREATMENT METHODS**

<b>PRODUCT</b>	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.
<b>CONTAMINATED PACKAGING</b>	DISPOSE OF AS UNUSED PRODUCT.

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**SECTION 14. TRANSPORT INFORMATION**

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**DOT (US)**

PROPER SHIPPING NAME:	FLAMMABLE LIQUID, TOXIC, N.O.S. ( Di-tert-butyl pyrocarbonate, 90% in THF )
UN NUMBER:	1992
CLASS:	3 (6.1)
PACKING GROUP:	II
REPORTABLE QUANTITY (RQ):	1314 LBS
POISON INHALATION HAZARD:	NO

**IMDG**

PROPER SHIPPING NAME:	FLAMMABLE LIQUID, TOXIC, N.O.S. ( Di-tert-butyl pyrocarbonate, 90% in THF )
UN NUMBER:	1992
CLASS:	3 (6.1)

PACKING GROUP: II  
EMS-NO: F-E, S-D

**IATA**

PROPER SHIPPING NAME: FLAMMABLE LIQUID, TOXIC, N.O.S. ( Di-tert-butyl  
pyrocarbonate, 90% in THF )  
UN NUMBER: 1992  
CLASS: 3 (6.1)  
PACKING GROUP: II

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**SECTION 15. REGULATORY INFORMATION**

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**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, CHRONIC HEALTH HAZARD

**MASSACHUSETTS RIGHT TO KNOW COMPONENTS**

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

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**SECTION 16. OTHER INFORMATION**

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

H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR.  
H315 CAUSES SKIN IRRITATION.  
H317 MAY CAUSE AN ALLERGIC SKIN REACTION.  
H318 CAUSES SERIOUS EYE DAMAGE.  
H330 FATAL IF INHALED.  
H335 MAY CAUSE RESPIRATORY IRRITATION.  
H336 MAY CAUSE DROWSINESS OR DIZZINESS.  
H351 SUSPECTED OF CAUSING CANCER.

**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:**

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VERSION: 3.2.

REVISION DATE: 07/01/2020