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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	26505
NAME:	Di-tert-butyl dicarbonate, 1.0 M solution in THF
SYNONYMS:	Boc anhydride, 1.0M solution in THF Di- <i>tert</i> -butyl dicarbonate, 1.0M solution in THF
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)

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

P308 + P313	EASY TO DO. CONTINUE RINSING. IMMEDIATELY CALL A POISON CENTER/DOCTOR.
P333 + P313	IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ ATTENTION.
P362	IF SKIN IRRITATION OR RASH OCCURS: GET MEDICAL ADVICE/ ATTENTION.
P370 + P378	TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE REUSE.
P403 + P233	IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-RESISTANT FOAM FOR EXTINCTION.
P403 + P235	STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED.
P405	STORE IN A WELL-VENTILATED PLACE. KEEP COOL.
P501	STORE LOCKED UP.
	DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.
HAZARDS NOT OTHERWISE CLASSIFIED (HNO) OR NOT COVERED BY GHS	NONE

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF:	C ₁₀ H ₁₈ O ₅
MW:	218.25
CAS-NO.	24424-99-5
PURITY:	≥ 99% (GC)

COMPONENT	CLASSIFICATION	CONCENTRATION
TETRAHYDROFURAN		
	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	>= 70 - < 90 %
DI(TERT-BUTYL) CARBONATE		
	FLAM. LIQ. 3; ACUTE TOX. 1; SKIN IRRIT. 2; EYE DAM. 1; SKIN SENS. 1; STOT SE 3; H226, H330, H315, H318, H317, H335	>= 20 - < 30 %

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 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	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

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 FIREFIGHTING IF NECESSARY.

FURTHER INFORMATION USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

SECTION 6. ACCIDENTAL RELEASE MEASURES

**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.

SECTION 7. HANDLING AND STORAGE

**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.

Store at 0-8 °C

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

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.

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 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).

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	Colorless transparent liquid
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE

PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	
INITIAL BOILING POINT AND BOILING RANGE	65-67 °C
FLASH POINT	-17°C
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	0.91
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

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

SECTION 11. TOXICOLOGICAL INFORMATION

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
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.
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.
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
INFORMATION**

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

COMPONENTS

TETRAHYDROFURAN

ACUTE TOXICITY

LD50 ORAL - RAT - MALE AND FEMALE - 1,650 MG/KG

REMARKS:

(ECHA)

SYMPTOMS: IRRITATION OF MUCOUS MEMBRANES

LC50 INHALATION - RAT - MALE AND FEMALE - 4 H - > 16.9 MG/L

(US-EPA)

SYMPTOMS: MUCOSAL IRRITATIONS, COUGH, SHORTNESS OF BREATH, POSSIBLE DAMAGES: DAMAGE OF RESPIRATORY TRACT

INHALATION: IRRITATING TO RESPIRATORY SYSTEM.

LD50 DERMAL - RAT - MALE AND FEMALE - > 2,000 MG/KG

(OECD TEST GUIDELINE 402)

NO DATA AVAILABLE

**SKIN
CORROSION/IRRITATION**

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.

**SERIOUS EYE
DAMAGE/EYE IRRITATION**

EYES - RABBIT

RESULT: EYE IRRITATION

REMARKS:

(ECHA)

(REGULATION (EC) NO 1272/2008, ANNEX VI)

**RESPIRATORY OR SKIN
SENSITISATION**

LOCAL LYMPH NODE ASSAY (LLNA) - MOUSE

RESULT: NEGATIVE

(OECD TEST GUIDELINE 429)

**GERM CELL
MUTAGENICITY**

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

CARCINOGENICITY

SUSPECTED OF CAUSING CANCER.

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.

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)
GERM CELL MUTAGENICITY	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
CARCINOGENICITY	NO DATA AVAILABLE
REPRODUCTIVE TOXICITY	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	MAY CAUSE RESPIRATORY IRRITATION.
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	NO DATA AVAILABLE

ASPIRATION HAZARD NO DATA AVAILABLE

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
COMPONENTS	
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

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: FLAMMABLE LIQUID, TOXIC, N.O.S. (Di-tert-butyl dicarbonate,
1.0 M solution 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 dicarbonate,
1.0 M solution 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 dicarbonate,
1.0 M solution in THF)

UN NUMBER: 1992

CLASS: 3 (6.1)

PACKING GROUP: II

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 (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.

SECTION 16. OTHER INFORMATION

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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