MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3-lodo-2-propynyl butyl carbamate (IPBC)

GENERAL USE: Fungicide/Preservative/Disinfectant

PRODUCT DESCRIPTION: Off white crystalline solid with mild,

characteristic odor.



Manufacturers Name:	DATE PREPARED: 12/11/2007		
H&S Chemical Co. Inc.	SUPERSEDES: 4/2004	Page 1 of 4	
ADDRESS (NUMBER, STREET, P.O. BOX)	TELEPHONE NUMBER FOR INFORMATION / customer service		
1025 Mary Laidley Drive	1-859-356-8000		
(CITY, STATE AND ZIP CODE) COUNTRY	CHEMTEL 24-HOUR EMERGENCY TELEPHONE NUMBER		
Covington, KY 41017 USA	North America: 1-800-255-3924 International: +01-813-248-0585		
	International. +01-013-240-0303		
DISTRIBUTOR'S NAME			
Not Applicable			
Not Applicable ADDRESS (NUMBER, STREET, P.O. BOX)	TELEPHONE NUMBER FOR INFORMA	TION / customer service	
• • • • • • • • • • • • • • • • • • • •	TELEPHONE NUMBER FOR INFORMA	TION / customer service	
	TELEPHONE NUMBER FOR INFORMA DISTRIBUTOR EMERGENCY TELEPHO		
ADDRESS (NUMBER, STREET, P.O. BOX)			

SECTION 2 - HAZARDOUS INGREDIENTS					
Hazardous Components	% (by Weight)	Cas #	EINECS #	Hazard Symbol	RISK PHRASES (Full Text Section 16)
3-lodo-2-propynyl Butyl Carbamate	97%+	55406- 53-6	259- 627-5	None	R-20/22
					R-41
					R-50
					R-50/53

Notes: OSHA Regulatory Status: This product is classified as Hazardous under OSHA regulations.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

An off white solid with a mild characteristic odor. May cause respiratory irritation and severe eye irritation with possible corneal injury if material comes into direct contact with the eyes. May evolve iodine vapors during combustion. Toxic to fish.

POTENTIAL HEALTH EFFECTS

INHALATION: May cause transient respiratory irritation

SKIN: Direct contact may cause mild skin irritation

EYES: May cause severe eye irritation with possible corneal injury unless washed from eyes promptly. The irritation and injury is reversible.

INGESTION: Single dose toxicity is low. Ingestion of small quantities during handling is not likely to cause harmful effects. Ingestion of larger quantities is harmful.

MATERIAL SAFETY DATA SHEET								
PRODUCT NAME: 3-iodo-2-propynl butyl carbamate	(IPBC)							
Date: 12/11/2007 CARCINOGENICITY: NTP? NO IARC N	10NOC		NO	001	IA DEC	Pa	ge 2 of 4	
CARCINOGENICITY: NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO Cal. Prop. 65? NO								
SECTION 4 - FIRST AID MEASURES								
Use good personal hygiene practices. If skin contact should occur, material should be washed away with a mild soap and water. Wash hands and other exposed areas thoroughly before eating, drinking, smoking or using toilet facilities. Do not smoke, drink or eat in areas where this product is stored or handled. For extensive scale or contamination removal, the following precautions should be taken: the work area should be well-ventilated and access should be restricted, surface contaminants should be kept wet, plastic ground cover should be used to contain contaminants and facilitate clean-up, and high efficiency particulate respirators should be worn unless concentrations are not expected to exceed limits established. Suitable coveralls and gloves should be worn and contaminated protective equipment and clothing should be decontaminated or disposed of.						k or pt rators		
INHALATION: If symptoms develop, remove from exposure area to fresh air promptly. If breathing is difficult, oxygen should be administered by qualified personnel. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Get medical attention.							еер	
EYES: Wash eyes immediately with large amounts of water for at least 15 minutes. Get medical attention immediately.								
SKIN: Remove contaminated clothing. Wash effected areas with soap and water. If irritation or redness develops, get medical attention. Wash clothing before re-use.						s,		
INGESTION: If swallowed, wash out mouth with wate immediately.	r provid	ed perso	n is con	scious. Se	eek me	edical atte	ntion	
SECTION 5 - FIR	E FIGH	ITING M	IEASUF	RES				
GENERAL HAZARDS: Emits toxic lodine fumes under readily. Runoff from fire control or dilution water may	r fire co	nditions.			y burn	but does	not ignit	е
EXTINGUISHING MEDIA: Dry chemical, carbon dioxi	de, wate	er spray,	or regu	lar foam.				
FIRE FIGHTING PROCEDURES: Move container from fire area if this can be done without risk. Do not scatter spilled material with high pressure water streams. Avoid breathing vapors, keep upwind. Positive pressure SCBA with full face piece and firefighters' protective clothing will provide limited protection. UNUSUAL FIRE AND EXPLOSION HAZARDS: May emit vapors of lodine under fire conditions.					A			
HAZARDOUS COMBUSTION PRODUCTS: Carbon I	Monoxid	e, carboi	n dioxid	e, nitroge	n oxide	es, lodine	vapors	
SECTION 6 - ACCIDE								
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Keep unnecessary people away from spill area. Wear protective equipment as specified in section 8. Stop leak if you can do it without risk. Small spills may be shoveled into a clean dry container, loosely covered. For larger spills cover spill with plastic sheet or tarp minimizing spreading or, if wet, dike far ahead of liquid spill for later disposal. Notify the appropriate authorities.								
SECTION 7 - HA								
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Avoid contact with eyes and skin. Avoid breathing dust. Wash thoroughly after handling. Keep container tightly closed. Use only with adequate ventilation. Do not permit product dust to accumulate on walls, sills, floors, or machinery. Avoid breakage of bagged material or spillage of bulk material. Store away from incompatible substances in a cool dry well ventilated area. Recommended storage temperatures should be between 0° C (32°F) and 32°C (90°F). Do not store this product for extended periods at over 45°C (112°F). Do not contaminate water, food,or feed by storage or disposal. Observe all local, state and federal regulations when storing or disposing of this substance.						illage orage		
SECTION 8 - EXPOSURE CO	ONTRO	LS / PER	SONAL	PROTE	CTION	l		
							 	

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: 3-lodo-2-propynyl butyl carbamate (IPBC)

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PERSONAL PROTECTION:

RESPIRATORY PROTECTION: A respiratory protection program meeting OSHA 1910.134 must be followed whenever workplace conditions warrant the use of a respirator. If exposure may exceed recommended limits. A NIOSH/MSHA- approved respirator should be used based on exposure levels found in the workplace. Normally respiratory protection is not required when using this product. Where protection from nuisance dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks).

PROTECTIVE GLOVES: Wear impervious gloves and an apron to minimize skin contact.

EYE PROTECTION: Use dust resistant Safety goggles or other approved eye protection

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eyewash station should be available within the immediate work area for emergency use.

WORK / HYGIENIC PRACTICES: Provide local exhaust or process enclosure ventilation to minimize exposure.

SECTION 9 - PHYSICAL	AND CHEMICAL PROPERTIES		
APPEARANCE AND ODOR	VAPOR PRESSURE		
Off white crystalline powder with a mild	@20℃ <1.8X10-5 mm Hg		
characteristic odor.			
pH Not Applicable	SPECIFIC GRAVITY (WATER = 1)		
	@25 °C 1.51-1.57		
BOILING POINT / BOILING RANGE	SOLUBILITY IN WATER		
Not Applicable	156 ppm (20 ℃)		
FLASH POINT	VISCOSITY		
Not Applicable	Not Applicable		
FLAMMABLE LIMITS	VAPOR DENSITY (AIR = 1)		
LEL: NA UEL: NA	Not Applicable		
AUTOIGNITION TEMPERATURE	EVAPORATION RATE (WATER = 1)		
Not Applicable	Not Applicable		

SECTION 10 - STABILITY AND REACTIVITY STABILITY UNSTABLE: CONDITIONS TO AVOID: Stable X Avoid excessive heat >180 °C (>356 °F).

INCOMPATIBILITY (MATERIALS TO AVOID): Strong acids (pH<2) and bases (pH >10)

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Carbon monoxide, carbon dioxide, nitrogen oxides, and iodine vapors.

HAZARDOUS POLYMERIZATION: Does not

occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

_	LOTION III - TOXIOOLOGIO	AL IIII OHIMAHOH	
Hazardous Components	CAS # EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
	(IPBC) 55406-53-6	Oral Rat Female-1056mg/Kg	
	259-627-5	Oral Rat Male -1795mg/Kg	
		Dermal,rabbit >2000mg/Kg	
		Eyes, rabbit-severe reversible irritant.	
			Rat 4hrs - 680 mg/Kg

SECTION 12 - ECOLOGICAL INFORMATION

This product is toxic to fish. LC-50 (bluegill sunfish, 96 hr flow through- 230ug/l. COD: 1148 mg/g. Octanol /water partition coefficient: Kow=log P=2.81.

Environmental fate: This product is a pesticide and may cause adverse environmental impact. Avoid contamination of steams and sewers. The fate of the active ingredient IPBC is quite favorable. Degradation is rapid and occurs through biological as well as non-biological processes.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

This product is not a RCRA hazardous waste by definition. The user of this material has the responsibility to dispose

PRODUCT NAME: 3-lodo-2-pi Date: 12/11/2007	ropynyl butyl carbamate		Page 4 of 4		
of unused material, residues, and containers in compliance with lo			·		
or unused material, residues, a	SECTION 14 - TRAI		· · · · · · · · · · · · · · · · · · ·		
PROPER SHIPPING NAME: Envi			N.O.S. contains 3-iodo-2-propynyl butyl carbamate		
DOT HAZARD CLASS / Pack Gro UN / NA IDENTIFICATION NUMB LABEL:Class 9 ERG#: 171 HAZARD SYMBOLS: Class 9	up:9/PGIII IATA HAZA ER: UN 3077 IMDG HAZA RID/ADR D	ARD CLASS ARD CLASS Cangerous G	/ Pack Group:9/PG III, ERG#9L 5:9/PGIII, ERG#F-A,S-F. oods Code: Non-Hazardous for road transport. Group: UN 3077/PGIII		
			ult CFR 49 parts 100 - 177, IMDG, IATA, EU, United Nations ceptions covering specific container sizes, packaging materials		
	SECTION 15 - REGU	JLATORY	INFORMATION		
TSCA (USA - Toxic Substa	nce Control Act): Lister	<u></u> d			
313 REPORTABLE INGRE This product contains the fo	DIENTS: (40CFR 372. ollowing toxic chemicals community Right -to Kno	65) s subject to ow Act of	norization Act): Not Reportable the reporting requirements of the 1986. This information must be included in al		
Chemical Name	CAS#		%		
3-iodo-2-propynyl butyl cark		3	<u>%</u> 97		
1 1, , ,					
CERCLA (USA - Compreh	ensive Response Comp	pensation	and Liability Act): Not reportable		
California Prop 65, Safe Dri	nking Water and Toxic	Enforcem	ent Act of 1986: Not listed		
CPR (Canadian Controlled	Products Regulations)	: Complie:	S		
IDL (Canadian Ingredient D	Disclosure List): Listed				
DSL / NDSL (Canadian Do	mestic Substances List	t / Non-Do	mestic Substances List): Listed		
	ording to E.U. directive 6	67/548/EE	nical Substances):Listed. This product is not EC. This chemical substance is not listed in a 03/93).		
WGK German (Water Quali			,		
	SYMBOL(S) REQUII				
RISK PHRASES:	FOR EU LABEL	-	SAFETY PHRASES:		
R-20/22			S-57-Use appropriate containment to avoid environmental contamination.		
	-		S-61- Avoid release to the environment.		
R-41	-				
R-41 R-50 R-50/53	_				
R-41 R-50	SECTION 16 - O	THER INF	ORMATION		
R-41 R-50 R-50/53					
R-41 R-50	R20/22-Harmful by inha R41- Risk of serious da	alation and amage TO	if swallowed. EYES.		
R-41 R-50 R-50/53	R20/22-Harmful by inha R41- Risk of serious da R50-Very toxic to aqua R50/53- Very toxic to a	alation and amage TO atic organis aquatic orga	if swallowed. EYES.		
R-41 R-50 R-50/53	R20/22-Harmful by inham R41- Risk of serious da R50-Very toxic to aqua R50/53- Very toxic to a the aquatic environmen	alation and amage TO atic organis aquatic orga at.	if swallowed. EYES. ms		
R-41 R-50 R-50/53	R20/22-Harmful by inham R41- Risk of serious da R50-Very toxic to aqual R50/53- Very toxic to a the aquatic environmen HEALTH:	alation and amage TO atic organis aquatic orga nt.	if swallowed. EYES. ms		
R-41 R-50 R-50/53	R20/22-Harmful by inham R41- Risk of serious da R50-Very toxic to aqua R50/53- Very toxic to a the aquatic environmen HEALTH:	alation and amage TO atic organis aquatic orga at. 2	if swallowed. EYES. ms anisms. May cause long-term adverse effects in		
R-41 R-50 R-50/53	R20/22-Harmful by inham R41- Risk of serious da R50-Very toxic to aqua R50/53- Very toxic to a the aquatic environmen HEALTH: FLAMMABILITY: REACTIVITY:	alation and amage TO atic organis aquatic orga nt.	if swallowed. EYES. ms anisms. May cause long-term adverse effects in 0 = INSIGNIFICANT		
R-41 R-50 R-50/53 Notes & full R-Phrase text	R20/22-Harmful by inham R41- Risk of serious da R50-Very toxic to aqua R50/53- Very toxic to a the aquatic environmen HEALTH: FLAMMABILITY: REACTIVITY: PERSONAL	alation and amage TO atic organis aquatic organit.	if swallowed. EYES. ms anisms. May cause long-term adverse effects in 0 = INSIGNIFICANT 1 = SLIGHT		
R-41 R-50 R-50/53 Notes & full R-Phrase text	R20/22-Harmful by inham R41- Risk of serious da R50-Very toxic to aqua R50/53- Very toxic to a the aquatic environmen HEALTH: FLAMMABILITY: REACTIVITY:	alation and amage TO atic organis aquatic orga at. 2	if swallowed. EYES. ms anisms. May cause long-term adverse effects in 0 = INSIGNIFICANT 1 = SLIGHT 2 = MODERATE		

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: 3-lodo-2-propynyl butyl carbamate

Date: 12/11/2007

MSDS Prepared by:

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Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

Website: www.chemtelinc.com



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The information contained herein is believed to be accurate but is not varianted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.