

MATERIAL SAFETY DATA SHEET						
SECTION 1 Identification of the Substance/Preparation and of the Company						
1.1	Product Trade Name	Super-Bond C&B Catalyst V				
1.2	Exporter:	Name	Sun Medical Co., Ltd.			
		Address	571-2 Furutaka-cho, Moriyama, Shiga, 524-0044, Japan			
		Telephone	81-77-582-9981			
		Facsimile	81-77-582-9984			
		e-mail	export@sunmedical.co.jp			
SECTION 2 Composition / Information on Ingredients						
		CAS No.	UN No.	Percent	Symbol	R-Phrase
	Preparation	----	1993	----	F	R11
	Ingredients	CAS No.	UN No.	Percent	Symbol	R-Phrase
	tri-n-butylborane (TBB), partially oxidized (TBB-O)	122-56-5 / 688-74-4	2003	approx. 80%	F / Xi	R11-36/37
	Hydrocarbon	----	3295	balance	F	R11
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SECTION 3 Hazards Identification						
3.1	Emergency overview	Highly flammable liquid (F) . Reactive with water and air to generate heat and flammable gas.				
3.2	Potential health effects					
	Eye	May cause irritation, chemical burns and possible corneal injury.				
	Skin	May cause skin irritation.				
	Ingestion	Harmful if swallowed.				
	Inhalation	Causes respiratory tract irritation. May cause dizziness, dullness, headache. Higher concentration can produce central nervous system depression, narcosis.				
	Effects of Long-term or Repeated Exposure	Not known.				
SECTION 4 First-Aid Measures						
4.1	Eye	Immediately flush with flowing water for at least 15 minutes. Get medical attention.				
4.2	Skin	Flush with soap and plenty of water. Get medical attention if irritation develops or persists.				
4.3	Ingestion	Promptly drink several glasses of water or milk to dilute. Get medical attention.				
4.4	Inhalation	Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.				
SECTION 5 Fire-Fighting Measures						
5.0	Flammable properties	Highly flammable liquid, reactive with water and air to generate heat and flammable gases.				
5.1	Flash point	-22°C (Hydrocarbon)	5.2	Autoignition temp.	Not known	
5.3	Flammable limit	Not known	5.4	Suitable extinguishing media	Foam, dry chemical, carbon dioxide or dry sand, water spray.	
5.5	Hazardous decomposition products:	Flammable gas and toxic gas may be released by reaction with water or air.	5.6	Special protective equipment	During emergency conditions, over- exposure to decomposition products may cause health hazard. Self-contained breathing apparatus should be worn.	

SECTION 6 Accidental Release Measures			
6.1 Personal precaution	For skin protection wear impervious protective gloves and clothing. For eye protection use safety goggle or a full-face shield. If the exposure limit is exceeded use an organic vapor respirator.		
6.2 Environmental precautions	May be hazardous to the environment.		
6.3 Methods for cleaning-up	In case material is released or spilled, remove all ignition sources, and ventilate the area of leak or spill. Collect spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Contents may develop pressure by decomposition.		
SECTION 7 Handling and Storage			
7.1 Handling	Observe normal warehouse handling procedures. Protect against physical damages.		
7.2 Storage	Store in a dry and dark well-ventilated place at cool (5~30°C) and stable temperature. Store away from ignition sources, flammable solids with large surface area (such as cotton, gauze).		
SECTION 8 Exposure Controls / Personal Protection			
8.1 Engineering measures			
Ventilation	Use local exhaust to keep exposures to a minimum.		
Other protective equipment	Eye wash station near work area.		
8.2 Personal protection			
Respiratory protection	None required during normal use of this product.		
Hand protection	Use impervious protective gloves to prevent skin contact.		
Eye protection	Use safety glasses.		
Skin protection	Use impervious protective gloves to prevent skin contact.		
Exposure guideline	Not established.		
SECTION 9 Physical and Chemical Properties			
9.1 Appearance	Colorless transparent liquid	9.2 Odor	Like n-butanol
9.3 pH	Not applicable	9.4 Vapor density	Not known
9.5 Boiling point	69°C (Hydrocarbon)	9.6 Solubility in water:	Decomposes, partly soluble
9.7 Specific gravity	approx. 0.8		
SECTION 10 Stability and Reactivity			
10.1 Stability	Reactive with air or water.		
10.2 Conditions to avoid	Heat beyond 30°C. Refrigeration. Fluctuating temperature. Direct sunlight. Ignition sources.		
10.3 Incompatibility (materials to avoid)	Strong oxidizers or halogenated hydrocarbons. Flammable solids with large surface area (such as gauze, cotton).		
10.4 Hazardous decomposition products	Carbon monoxide, butanol, boron oxide, borane.		
10.5 Hazardous polymerization	Will not occur.		
SECTION 11 Toxicological Information			
11.1 Health hazards:(immediate, delayed, acute, chronic)	Not known. Easily decomposed to n-butanol and boric acid.		
11.2 Toxicity	LD ₅₀ : Oral 1,125 mg/Kg (Rat/borane), 2,150 mg/Kg(Mouse/borate) 4,360 mg/Kg (Rat/n-butanol), 2,660 mg/Kg (Rat/boric acid)		
11.3 Mutagenicity	Negative (TBB-O:Schmalz G. et al., J. Dent. Res., vol 80, 1234, 2001)		
11.4 Carcinogenicity	(ACGIH) No, (IARC) No		

SECTION 12 Ecological Information	
12.1 General	This substance may be hazardous to the environment.
12.2 Mobility	When released, this substance is expected to evaporate quickly or decompose by contact with air or water.
12.3 Degradability	Not known.
12.4 Accumulation	Not known.
12.5 Ecotoxicity	Not known.
12.6 Other adverse effects	Not known.
SECTION 13 Disposable Considerations	
13.1 Danger in disposal	Highly reactive with water and air. This substance should be handled as hazardous waste.
13.2 Disposal method	(Consult federal, state, and local regulations): Do not empty into sewer. This substance should be sent to an approved incinerator.
SECTION 14 Transport Information	
14.1 Precautions for transport	Highly flammable liquid
14.2 UN	UN1993 - Flammable liquid, n.o.s.
14.3 IMDG	Class 3.2, PG II
14.4 ICAO/IATA	Class 3, PG II
SECTION 15 Regulatory Information	
15.1 RTECS	----
15.2 EU Classification	F; R11 / Xi; R36/37
SECTION 16 Other Information	
16.1	Prepared / Revised in August 2005 by Sun Medical Co., Ltd.
16.2	This Product is for dental professional use only.
16.3	The information above is believed to be accurate. However, Sun Medical Co., Ltd. makes NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Users must take their own investigations to determine the suitability of the information and the Product for their particular purposes.