

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: V - SHIELD Part B			Page 1 of 4
GENERAL USE: Protective coating - Component B			
PRODUCT DESCRIPTION: White liquid, characteristic odor. The information in this MSDS refers to Part B ONLY. Product characteristics described here are NOT reflective of the coating product in which Part A Resin is mixed with Part B.			
DISTRIBUTED BY Bond Water Technologies, Inc.	DATE PREPARED: SUPERSEDES:		
ADDRESS (NUMBER, STREET, P.O. BOX) 630 East Diamond Avenue, Suite J/K		TELEPHONE NUMBER FOR INFORMATION (301) 721-2663	
(CITY, STATE AND ZIP CODE) Gaithersburg, MD 20877	COUNTRY USA	EMERGENCY TELEPHONE NUMBER CHEMTREC 800-424-9300	

SECTION 2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW White liquid, low volatility, eye and skin irritant. Low fire risk. React with amines to produce heat. Hazard Symbols - Xi, N. Risk Phrases - R36/38, 43, 51/53
POTENTIAL HEALTH EFFECTS INHALATION: Corrosive and irritating to upper respiratory tract and mucous membranes. SKIN: Corrosive and irritating; chemical burns may result from contact; severe irritant. EYES: CORROSIVE; Contact with eyes is painful and irritating and may cause chemical burns, necrosis and permanent injury. INGESTION: Corrosive and irritating to digestive tract; may cause gastric distress, stomach pains and vomiting.
CARCINOGENICITY NTP? No IARC MONOGRAPHS? No OSHA REGULATED? No

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS	CAS #	EINECS #	% (by weight)	OSHA PEL		ACGIH TWA	RQ LBS
				PPM	MG/M3	P P M M G / M 3	
Benzyl Alcohol	100-51-6	202-859-9	10 - 30	not established			
Antimony trioxide (a,b,c)	1309-64-4 1000	215-175-0	5 - 10	0.5		0.5	
Isophoronediamine	2855-13-2	220-666-8	7 - 13	not established			
Decabromodiphenyl oxide (a)	1163-19-5	214-604-9	10 - 30	15		10	
1-Methyl-2-pyrrolidone (a,b)	872-50-4	212-828-1	0.5 - 1.0	100			
Benzene 1,3-dimethanamine (d)	1477-55-0	216-032-5	1 - 5	0.1 C		0.1 C	
Petroleum distillate, aromatic	64742-95-6	265-199-0	1 - 5	100	500		
Salicylic acid (e)	69-72-7	200-712-3	1 - 5	not established			

(a,c) See Section 15

(b) California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986, chemicals known to the state to cause cancer or reproductive toxicity. A person in the course of doing business must warn others who may consume, come into contact with, or otherwise be exposed to this chemical.

(d) A "C" in the OSHA PEL or ACGIH TWA column indicates ceiling limits, the concentration that should not be exceeded during any part of the working exposure.

(e) Ingredients included in the Canadian Ingredient Disclosure List are one of the four categories of ingredients whose identity and concentration must be disclosed on an MSDS if found in a controlled product above the concentration cut-off.

MATERIAL SAFETY DATA SHEET			
PRODUCT NAME: V - SHIELD Part B			Page 2 of 4
SECTION 4 - FIRST AID MEASURES			
INHALATION: Remove affected person to fresh air; wash mouth and nasal passages with water repeatedly; if breathing difficulties persist seek medical attention.			
SKIN: Wash contacted area with soap and water; DO NOT attempt to neutralize with chemical agents; if irritation persists, seek medical attention.			
EYES: Check for and remove contact lenses. Immediately flush eyes for 15 minutes in clear running water while holding eyelids open; seek medical attention immediately.			
INGESTION: Drink large quantities of water or milk; give diluted vinegar or lemon juice to conscious person; DO NOT induce vomiting; seek medical attention immediately.			
SECTION 5 - FIRE FIGHTING MEASURES			
FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	Not applicable	Not applicable
> 200° F (> 93.3° C)		Not determined	
GENERAL HAZARDS: Product will support combustion. Products of combustion include compounds of carbon, hydrogen and oxygen, including carbon monoxide.		AUTOIGNITION TEMPERATURE:	NEPA CLASS:
EXTINGUISHING MEDIA Carbon dioxide, water fog, dry chemical, chemical foam.			
FIRE FIGHTING PROCEDURES Firefighters must wear full facepiece self - contained breathing apparatus in positive pressure mode. Do not use solid stream of water since stream will scatter and spread fire. Fine water spray can be used to keep fire - exposed containers cool.			
UNUSUAL FIRE AND EXPLOSION HAZARDS Closed containers can explode due to buildup of pressure when exposed to extreme heat. Do not use direct stream of water on pool fires as product may reignite on water surface. Caution - Material will support combustion!			
HAZARDOUS COMBUSTION PRODUCTS Smoke, fumes or vapors, oxides of carbon, ammonia.			
SECTION 6 - ACCIDENTAL RELEASE MEASURES			
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: CAUTION - CORROSIVE, WILL SUPPORT COMBUSTION. Do not wash to sanitary sewer. Large spills - confine spill, soak up with approved absorbent, shovel product into approved container for disposal; for spills in excess of allowable quantities (RQ) notify the National Response Center (800) 424 - 8802; refer to SARA Title III, Section 313 40 CFR 372, and CERCLA 40 CFR 302 for detailed instructions concerning reporting requirements.			
SECTION 7 - HANDLING AND STORAGE			
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep container closed when not in use; protect containers from abuse; protect from extreme temperatures, open flames. CAUTION - material is corrosive. This material will support combustion. Keep this and other chemicals out of reach of children.			
SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION			
ENGINEERING CONTROLS The use of local exhaust ventilation is recommended to control emissions near the source. Provide mechanical ventilation of confined spaces. Use corrosion-resistant, explosion-proof ventilation equipment.			
PERSONAL PROTECTION:			
RESPIRATORY PROTECTION: None required while threshold limits are kept below maximum allowable concentrations; if TWA exceeds limits, NIOSH approved respirator must be worn. Refer to 29 CFR 1910.134, ANSI Z88.2, or European Standard EN 149 for complete regulations.			
PROTECTIVE GLOVES: Neoprene, butyl or nitrile rubber gloves with cuffs.			
EYE PROTECTION: Chemical splash goggles. Refer to 29 CFR 1910.133, ANSI Z87.1, or European Standard EN166.			
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Coveralls, apron, or other equipment should be worn to prevent skin contact, safety eyewash station nearby.			
WORK / HYGIENIC PRACTICES: Practice safe workplace habits. Minimize body contact with this, as well as all chemicals in general.			

MATERIAL SAFETY DATA SHEET				
PRODUCT NAME: V - SHIELD Part B				Page 3 of 4
SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES				
APPEARANCE AND ODOR White liquid, characteristic odor		VAPOR DENSITY (AIR = 1) > 1		
SPECIFIC GRAVITY (WATER = 1) 1.60		EVAPORATION RATE (Water = 1) Not applicable		
SOLUBILITY IN WATER Negligible		% VOLATILE (BY WEIGHT) < 5%		
pH Not applicable		VAPOR PRESSURE Not applicable		
BOILING POINT Not applicable		FREEZING POINT Not determined		
VISCOSITY 10,000 centipoise @ 77° F		VOLATILE ORGANIC COMPOUNDS (VOC's) 70 grams / liter		
SECTION 10 - STABILITY AND REACTIVITY				
STABILITY STABLE:		UNSTABLE: X		CONDITIONS TO AVOID: Extreme temperatures, open flames.
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers, strong acids, strong alkalies.				
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbons, fumes or vapors, and smoke may be produced.				
HAZARDOUS POLYMERIZATION WILL NOT OCCUR:		MAY OCCUR: X		CONDITIONS TO AVOID: None
SECTION 11 - TOXICOLOGICAL INFORMATION				
Hazardous Ingredients	CAS #	EINECS #	LD50 of Ingredient Species and Route	LC50 of Ingredient Species
Benzyl Alcohol	100-51-6	202-859-9	1 230 mg / kg Oral - rat	2000 ppm 4H (LCLo) Inhalation - rat
Antimony trioxide (a,b,c)	1309-64-4	215-175-0	> 34.6 g / kg Oral - rat	Not established
Isophoronediamine	2855-13-2	220-666-8	Not established	Not established
Decabromodiphenyl oxide (a)	1163-19-5	214-604-9	Not available	Not available
1 -Methyl-2-pyrrolidone (a,b)	872-50-4	212-828-1	3914 mg / kg Oral - rat	Not established
Benzene 1,3-dimethanamine (d)	1477-55-0	216-032-5	930 mg / kg Oral - rat	700 ppm / 1H Inhalation - rat
Petroleum distillate, aromatic	64742-95-6	265-199-0	Not determined	Not determined
Salicylic acid (e)	69-72-7	200-712-3	891 mg / kg Oral - rat	> 900 mg / m3 / 1H Inhalation - rat
SECTION 12 - ECOLOGICAL INFORMATION				
No data are available on the adverse effects of this material on the environment. Neither COD nor BOD data are available. Based on the chemical composition of this product it is assumed that the mixture can be treated in an acclimatized biological waste treatment plant system in limited quantities. However, such treatment should be evaluated and approved for each specific biological system. None of the ingredients in this mixture are classified as a Marine Pollutant.				
SECTION 13 - DISPOSAL CONSIDERATIONS				
WASTE DISPOSAL METHOD: Dispose of in accordance with local, state, and federal regulations. Refer to 40 CFR 260 - 299 for complete waste disposal regulations for corrosive and ignitable materials. Consult your local, state, or federal agency before disposing of any chemicals. According to the European Waste Catalogue, waste codes are application specific and should be assigned by the user based on the application for which the product is used.				
SECTION 14 - TRANSPORT INFORMATION				
PROPER SHIPPING NAME: Corrosive liquid, basic, organic, n.o.s. (m-xylolenediamine)				
DOT HAZARD CLASS / Pack Group: 8 / III		8 / III		
REFERENCE: 49 CFR 173.154, .203, .241		IMDG HAZARD CLASS: 8 / III		
UN / NA IDENTIFICATION NUMBER: UN 3267		RID/ADR Dangerous Goods Code: 8		
LABEL: CORROSIVE		UN TDG Class / Pack Group: 8 / III		
HAZARD SYMBOLS: C		Hazard Identification Number (HIN): 80		
Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.				

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: V - SHIELD Part B

Page 4 of 4

SECTION 15 - REGULATORY INFORMATION

TSCA (Toxic Substance Control Act)

All components of this product are listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory) or are exempted from listing because a Low Volume Exemption has been granted in accordance with 40 CFR 723.50.

SARA TITLE III (Superfund Amendments and Reauthorization Act)

31 1/312 Hazard Categories

Immediate health

313 Reportable Ingredients:

(a) Indicates a toxic chemical subject to annual reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

CERCLA (Comprehensive Response Compensation and Liability Act)

(c) The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) has notification requirements for releases or spills to the environment of the Reportable Quantity (RQ for this mixture = 12,000 lbs) or greater amounts, according to 40 CFR 302.

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

There is a reportable chemical present (1-Methyl-2-pyrrolidone) known to the state of California to cause cancer or reproductive toxicity.

CPR (Canadian Controlled Products Regulations)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. WHMIS Classification: D2B - Eye irritation; D2B - Skin Sensitization

IDL (Canadian Ingredient Disclosure List)

Components of this product identified by CAS number and listed on the Canadian Ingredient Disclosure List are shown in Section 3.

DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List)

Components of this product identified by CAS number are listed on the DSL or NDSL, or are otherwise in compliance with the New Substances Notification (NSN) regulations. Only ingredients classified as "hazardous" are listed in Section 3 unless otherwise indicated.

EINECS (European Inventory of Existing Commercial Chemical Substances)

Components of this product identified by CAS numbers are on the European Inventory of Existing Commercial Chemical Substances.

WGK Water Quality Index: 2

VbK Index: A III

Risk Phrases

R36/38 Irritating to eyes and skin.
R43 May cause sensitization by skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SYMBOL(S) REQUIRED FOR LABEL

Irritant Environmental Hazard

Safety Phrases

S23 Do not breathe vapour.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 After contact with skin, wash immediately with plenty of soap and water.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

SECTION 16 - OTHER INFORMATION

Specific toxicity tests have not been conducted on this product. Our hazard evaluation is based on information from similar products, the ingredients, technical literature, and/or professional experience.

HMIS HAZARD RATINGS

HEALTH
FLAMMABILITY
PHYSICAL HAZARD
PERSONAL PROTECTIVE EQUIPMENT

3 * = Chronic Health Hazard 2 = MODERATE
1 0 = INSIGNIFICANT 3 = HIGH
0 1 = SLIGHT 4 = EXTREME
C Safety Glasses, Gloves, Apron

REVISION SUMMARY:

This MSDS has been revised in the following sections:
Complete format revision

MSDS Prepared by:

The information contained herein is believed to be accurate but is not warranted 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.