MATERIAL SAFETY DATA SHEET

BOND ADHESIVES CO
301 FRELINGHUYSEN AVE NEWARK NJ 07114
INFORMATION TELEPHONE # (800) 879-0527
EMERGENCY TELEPHONE # (800) 255-3924

PRODUCT IDENTITY/TRADE NAME: ADHESIVE # 5073, Bond Pool Patch
CHEMICAL FAMILY: POLYMER SOLUTION

COMPONENTS:	%	STEL	PEL	TLV
METHYL ETHYL KETONE (CAS# 78-93-3)*	< 80	300	200	200
POLYMER** (TRADE SECRET REGISTRY # 20101300000-5006p)	< 20	NONE	NONE	NONE

* THIS CHEMICAL IS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313
** THE SPECIFIC CHEMICAL IDENTITY HAS BEEN WITHHELD AS A TRADE SECRET AND IS NOT CONSIDERED AS DEFINED IN 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

BOILING POINT: 176^0 F (METHYL ETHYL KETONE) **VAPOR PRESSURE:** at 20^0 C 71mm of Hg
SOLUBILITY IN WATER: at 20^0 C 22% **SPECIFIC GRAVITY:** 0.88
APPEARANCE AND ODOR: COLORLESS TO PALE YELLOW LIQUID - ODOR OF METHYL ETHYL KETONE

PHYSICAL HAZARD DATA:
COMPRESSED GAS: NO **OXIDIZER:** NO **PYROPHORIC:** NO
ORGANIC PEROXIDE: NO **FIRE HAZARD:** FLAMMABLE **FLASH POINT:** 22^0 F TAG OPEN CUP
EXTINGUISHING MEDIA: DRY CHEMICAL, CO_2, FOAM
SPECIAL FIRE FIGHTING PROCEDURES: KEEP CONTAINERS ISOLATED
EXPLOSIVE POTENTIAL: YES **LEL:** 1.8 **UEL:** 10.0

REACTIVITY /INCOMPATIBILITY: STRONG OXIDIZING AGENTS

UNUSUAL HAZARDS: EXTREMELY FLAMMABLE, LIQUIDS AND CONCENTRATED VAPORS MAY CREATE FIRE AND EXPLOSION HAZ ARD. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL TO REMOTE IGNITION SOURCES AND FLASH BACK HAZARDOUS DECOMPOSITION PRODUCTS UPON BURNING INCLUDE CARBON MONOXIDE, CARBON DIOXIDE, AS WELL AS OTHER UNIDENTIFIED ORGANIC FRAGMENTS THAT MAY BE TOXIC OR HAZARDOUS

HMIS DESIGNATIONS

FLAMMABILITY	REACTIVITY
3	0
HEALTH	**PROTECTION**
1	B

HEALTH HAZARD DATA:
ACUTE EFFECTS FROM OVEREXPOSURE: MAY CAUSE IRRITATION TO NOSE, THROAT, AND EYES. INHALATION MAY CAUSE HEADACHE, VOMITING, FAINTNESS OR DIZZINESS, INTOXICATION; COMA; DEATH BY PARALYSIS
OF RESPIRATORY SYSTEM.

CHRONIC EFFECTS OF OVEREXPOSURE: REPEATED BREATHING OF SOLVENT VAPOR OR SKIN CONTACT MAY INCREASE THE POTENCY OF NEUROTOXINS SUCH AS HEXANE OR METHYL BUTYL KETONE. IF THE EXPOSURES DO NOT COINCIDE, THE SOLVENT SYSTEM OF THIS PRODUCT HAS NOT SHOWN TO BE A CHRONIC NEUROTOXIN BY ITSELF
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: THE SOLVENT SYSTEM OF THIS PRODUCT MAY AFFECT THE CENTRAL NERVOUS SYSTEM AND/OR AGGRAVATE PRE-EXISTING DISORDERS. PROLONGED OBSERVATIONS MAY BE INDICATED.
PRIMARY ROUTE(S) OF ENTRY: SKIN, INHALATION, EYES
EMERGENCY FIRST AID: **EYE CONTACT** FLUSH FOR AT LEAST 15 MINUTES WITH CLEAN LUKEWARM WATER LIFTING EYELIDS. OBTAIN MEDICAL ATTENTION.
SKIN CONTACT REMOVE CONTAMINATED CLOTHING. WASH AFFECTED AREAS THOROUGHLY WITH SOAP AND WATER. WASH CONTAMINATED CLOTHING THOROUGHLY BEFORE REUSE.
INHALATION REMOVE TO AN AREA FREE OF RISK OF FURTHER EXPOSURE. ADMINISTER OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN MEDICAL ATTENTION.
INGESTION CONSULT PHYSICIAN. DO NOT INDUCE VOMITING. DAMAGE TO LUNGS EXCEEDS POISONING RISK.

SAFE HANDLING PROCEDURES:
HYGIENIC PRACTICES: USE GOOD PERSONAL HYGIENE PRACTICES, WASH HANDS BEFORE EATING DRINKING SMOKING OR USING TOILET FACILITIES. PROMPTLY REMOVE CONTAMINATED CLOTHING. WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING SOAP AND WATER
PROTECTIVE MEASURES DURING REPAIR/MAINTENANCE OF CONTAMINATED EQUIPMENT: KEEP SOLVENT FUMES BELOW TLV LEVELS OR WEAR APPROVED RESPIRATOR. AVOID CONTACT WITH SKIN.
SPILL HANDLING/CLEAN-UP: REMOVE IGNITION SOURCES. RECOVER FREE LIQUID. ADD ABSORBENT MATERIAL TO SPILL. AVOID BREATHING VAPORS. VENTILATE CONFINED SPACES. USE NON-SPARKING TOOLS. KEEP PRODUCT OUT OF SEWERS AND/OR WATERWAYS. **SMALL SPILL** ALLOW VOLATILE PORTION TO EVAPORATE IN WELL VENTILATED AREA. DISPOSE OF REMAINING MATERIAL IN ACCORDANCE WITH APPLICABLE REGULATIONS. **LARGE SPILL** DISPOSE OF MATERIAL BY INCINERATION OR DEPOSITION IN AN APPROVED LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND/OR FEDERAL REGULATIONS.

CONTROL MEASURES
RECOMMENDED ENGINEERING CONTROLS: EXHAUST VENTILATION SUFFICIENT TO KEEP CONCENTRATIONS OF SOLVENT FUMES BELOW THEIR TLV LEVELS MUST BE UTILIZED. EXPLOSION PROOF EQUIPMENT IS RECOMMENDED.
RECOMMENDED WORK PRACTICES: AVOID CONTACT WITH SKIN
RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT:
RESPIRATORY PROTECTION: IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED AIR PURIFYING OR SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE.
GLOVES: CHEMICALLY RESISTANT GLOVES.
EYE PROTECTION: SAFETY GLASSES
OTHER: NONE

COMMENTS: FOR INDUSTRIAL USE ONLY. TRANSPORTATION EMERGENCY CALL 800-255-3924. QUANTITIES LESS THAN 1 QUART ARE CLASSIFIED CONSUMER COMMODITY ORM-D IN ACCORDANCE WITH 49 CFR

DATE PREPARED/UPDATED: 2/2007
PREPARED BY: RICHARD P. FRAGIACOMO/ TECHNICAL DIRECTOR

Azbond C

Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

- PRODUCT NAME — Azbond C
- CHEMICAL FAMILY — Solution of PU in solvent
- NFPA RATINGS — Health = 2, Fire = 3, Instability = 0
- USE — Adhesive for PVC boat
- COMPANY INFORMATION — Aztech Australia P/L
  19 Reichert Dve Molendinar
  Ph 07 5594 6266
  IN CASE OF EMERGENCY — Fx 07 5594 7886
- CREATION DATE — Jun. 14, 2004
- REVISION DATE — Apr. 01, 2009

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT	SYNONYMS	CAS NUMBER	CONTENT (%)
POLYURETHANE	-	-	15 – 19
MEK	2-BUTANONE	78-93-3	32 – 38
ACETONE	2-PROPANONE	67-64-1	20 – 26
TOLUENE	METHYL BENZENE	108-88-3	20 – 26
ANTI OXIDANT	-	-	< 1

3. HAZARDS IDENTIFICATION

- HAZARDS IN AN EMERGENCY — Flammable liquid and vapor. Vapor may cause flash fire, irritation to eyes, skin and respiratory tract.
- EYE CONTACT — May cause irritation, tearing and eye damage.
- SKIN CONTACT — Repeated contact may cause dry skin, irritation and rash.
- INHALATION — May cause irritation, difficulty breathing, headache, drowsiness and symptoms of drunkenness.
- INGESTION — May cause rash, low body temperature, vomiting, digestive disorders, irregular heartbeat, headache, drowsiness and symptoms of drunkenness.

4. FIRST AID MEASURES

- EYE CONTACT — Wash eyes immediately with large amounts of water or normal saline until no evidence of chemical remains. Get medical attention immediately.
- SKIN CONTACT — Wipe off mechanically and remove contaminated clothing, jewelry, and shoes immediately. Wash with soap and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.
- INHALATION — Remove from exposure immediately if feel difficulty in breathing due to vapor evaporated. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.

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◈ INGESTION ---------- Contact local poison control center or physician and get medical attention immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side.

◈ NOTE TO PHYSICIAN ---------- For inhalation, consider oxygen. For ingestion, consider gastric lavage and activated charcoal slurry.

5. FIRE FIGHTING MEASURES

◈ EXTINGUISHING MEDIA ---------- Water, carbon dioxide, regular dry chemical, foam, etc.

◈ FIREFIGHTING PROCEDURES ---------- Fire fighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Cool containers with water spray until well after the fire is out.

◈ HAZARDOUS COMBUSTION PRODUCTS ---------- May produce noxious fumes.

6. ACCIDENTAL RELEASE MEASURES

◈ OCCUPATIONAL RELEASE ---------- Wear suitable PPE(Personal Protective Equipment) to protect eyes, skin and respiratory tract. Avoid heat, flames, sparks and other sources of ignition. Remove sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

7. HANDLING AND STORAGE

◈ Store and handle in accordance with all current regulations and standards.
◈ Grounding and bonding required.
◈ Avoid contact with incompatible material such as combustible materials, peroxides, metals, metal salts, acids, oxidizing agents, amines, bases, halo carbons, halogens, reducing agents.
◈ Wear suitable PPE(Personal Protective Equipment) to protect eyes, skin and respiratory tract.
◈ Keep containers in a cool, dry and well-ventilated area.
◈ Keep containers tightly sealed and open pressurized containers carefully to release pressure.
◈ Store away from direct sunlight.
◈ Keep out of water supplies and sewers.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

◈ Employers should explore all possible engineering and work practice controls to eliminate hazards and use PPE (Personal Protective Equipment) to provide additional protection against hazards that cannot be completely eliminated through other means.

◈ VENTILATION ---------- Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

◈ RESPIRATOR ---------- If exposure may or does exceed occupational exposure limits even under local exhaust ventilation system, wear appropriate respirators.

◈ EYE PROTECTION ---------- Wear appropriate safety glasses with side shields. Provide an emergency eye wash fountain in the immediate work area.

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◈ GLOVES ---------- Wear appropriate chemical resistant gloves. In the event of contamination, change gloves immediately.

◈ CLOTHING ---------- Wear appropriate chemical resistant clothing.

◈ HYGIENE ---------- Wash before eating, drinking, smoking, or using toilet facilities.

◈ EXPOSURE LIMITS

COMPONENT	TWA		
	OSHA	ACGIH	MOL(1)
MEK	200ppm	200ppm	200ppm
ACETONE	1000ppm	500ppm	750ppm
TOLUENE	200ppm	50ppm (skin)	100ppm

(1) MOL= Minster Of Labor, Korea

9. PHYSICAL AND CHEMICAL PROPERTIES

◈ APPEARANCE ---------- Colorless translucent liquid

◈ INITIAL BOILING POINT ---------- Approx. 80℃

◈ ODOR ---------- Mint and sweet odor

◈ SPECIFIC GRAVITY ---------- 0.860±0.005 (/15±1℃)

◈ WATER SOLUBILITY ---------- Slightly soluble

◈ FLASH POINT ---------- -9℃

10. STABILITY AND REACTIVITY

◈ REACTIVITY ---------- Stable at normal temperatures and pressure

◈ CONDITIONS AND MATERIALS TO AVOID ---- Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode owing to heat and increase of pressure. See "Section 7. HANDLING AND STORAGE"

◈ HAZARDOUS DECOMPOSITION PRODUCTS --- No hazardous decomposition products when stored and handled correctly.

◈ HAZARDOUS REACTANTS ---------- Not available

11. TOXICOLOGICAL INFORMATION

MEK

23500 mg/m3/8 hour(s) Inhalation-rat LC50; 2737 mg/kg Oral-rat LD50

ACETONE

50100 mg/m3/8 hour(s) Inhalation-rat LC50; 5800 mg/kg oral-rat LD50

TOLUENE

49 gm/m3/4 hour(s) Inhalation-rat LC50; 636 mg/kg oral-rat LD50.

12. ECOLOGICAL INFORMATION

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MEK

Ecotoxicity data: Fish toxicity: >400000 ug/L 96 hour(s) LC50 (Mortality) Sheepshead minnow
Invertebrate toxicity: 5091000 ug/L 48 hour(s) EC50 (Immobilization) Water flea
Algal toxicity: >500000 ug/L 96 hour(s) EC50 (Photosynthesis) Diatom
Environmental summary: Harmful to aquatic life.

ACETONE

Ecotoxicity data: Fish toxicity: 4 ug/L 96 hour(s) LC50 (Mortality) Harlequinfish, red rasbora
Invertebrate toxicity: 35 ug/L 48 hour(s) EC50 (Immobilization) Water flea
Algal toxicity: <14 ug/L 11-14 hour(s) MATC (Growth) Red algae
Fate and transport: Bioconcentration: 100000 ug/L 32 hour(s) BCF (Residue) Fathead minnow 4.3 ug/L.
Environmental summary: Highly toxic to aquatic life.

TOLUENE

Ecotoxicity data: Fish toxicity : 8110 ug/L 96 hour(s) LC50 (Mortality) Coho salmon,silver salmon
Invertebrate toxicity: 6000 ug/L 48 hour(s) EC50 (Immobilization) Water
Algal toxicity: 9400 ug/L 8 hour(s) EC50 (Growth) Green algae
Fate and transport: Bioconcentration: 1716 ug/L 6 hour(s) BCF (Residue) Water flea 1.5 ug/L.

13. DISPOSAL CONSIDERATIONS

◈ WASTE DISPOSAL METHOD ——— Dispose in accordance with all applicable regulations. Incinerate waste into the refuse incinerator elevated at 800℃. Put discharged waste into a sealed container by proper tool then incinerate at high temp. Get rid of discharged waste by using cotton cloth then incinerate that cotton cloth at high temp. Reuse the empty container after getting rid of residue and incinerate residue at high temp.

◈ DISPOSAL PRECAUTIONS ——— Empty containers may contain product residue. Follow MSDS and label warnings even after they have been emptied.

14. TRANSPORT INFORMATION

◈ Avoid heat above 50℃ and avoid temperatures below 0℃.
◈ See "Section 7. HANDLING AND STORAGE"

SHIPPING NAME	UN NUMBER	HAZARD CLASS	PACKING GROUP	LABEL
ADHESIVES	UN 1133	3	II	FLAMMABLE LIQUID

15. REGULATORY INFORMATION

◈ KOREAN REGULATIONS ——— THE FIRE SERVICES ACT:
Hazardous material, Class 4, Flammable Liquid

◈ The information given and the recommendations made herein apply to our products alone and not combined with other products.

Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made.

16. OTHER INFORMATION

◈ SOURCES OF INFORMATION ——— MSDS presented by KOSHA-NET of Korea Occupational Safety & Health Agency