

BK7651322

MATERIAL SAFETY DATA SHEET

Effective Date: none

Revision Date: none

Code: BPI

Liquid Buffer

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Section 1 - Product and Company Identification

PRODUCT NAME: Liquid Buffer

MANUFACTURER'S NAME:

Bridge Products, Inc. A.C.D.

500 S. 45th Street E

Muskogee, OK 74403

EMERGENCY TELEPHONE NUMBER

(918) 687-5427

MISCELLANEOUS INFORMATION

(800) 424-9300

Section 2 - Hazardous Ingredients

INGREDIENT	CAS NUMBER	OSHA-PEL		ACGIH-TLV		%
		TWA *A/B	STEL *A/B	TWA *A/B	STEL *A/B	
Trichloroethylene	79-01-6	50B	200B	50B	100B	50.0
Methylene Chloride	75-09-2	500B		50B		30.0
Xylene (Mixed Isomers)	1330-20-7	100B	150B	100B	150B	16.0
Ethyl Benzene	100-41-4	100B	125B	100B	125B	4.0
Toluene	108-88-3	100B	150B	50B	150B	<1.0
1,2 - Butylene Oxide	106-88-7					Trace
Stabilizers						Trace

*UNITS - A:mg/m³, B:ppm

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Section 3 - Hazards Identification

INGREDIENT-HEALTH HAZARDS, SIGNS & SYMPTOMS OF EXPOSURE:

EYE - May cause pain, moderate eye irritation and slight corneal injury. Vapors may irritate eyes.

SKIN CONTACT - Prolonged or repeated exposure may cause skin irritation, even a burn. Repeated contact may cause drying or flaking of skin. Extensive skin contact with methylene chloride, may cause intense burning sensation followed by a cold, numb feeling.

SKIN ABSORPTION - A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Trichloroethylene may be absorbed through the skin to some degree increasing blood concentrations or causing numbness of fingers.

INGESTION - If liquid enters the lung, may be rapidly absorbed and result in injury to other body systems. Amounts ingested incidental to industrial handling are not likely to cause injury, however ingestion of larger amounts could cause serious injury, even death.

INHALATION - In confined or poorly ventilated areas, vapors can readily accumulate and can cause unconsciousness and death. Excessive exposure may cause irritation to upper respiratory tract, may increase sensitivity to epinephrine, increase irregular heart-beats. May cause alcohol intolerance often manifested by temporary reddening of the skin called "degreaser's flush", may rapidly cause dizziness or drunkenness. Excessive exposure may impair the blood's ability to transport oxygen.

SYSTEMIC & OTHER EFFECTS - Alcohol consumed before or after exposure may increase adverse effects and may cause central or possibly even peripheral nervous system effects; high levels have caused liver or kidney effects in laboratory animals. A positive carcinogenic response has occurred only in mice given large doses of trichloroethylene. Butylene oxide has been shown to produce benign and malignant tumors in rats but not mice, but is not believed to pose a carcinogenic risk to man when handled as recommended. Animal data on butylene oxide and trichloroethylene do not suggest any reproductive hazard from exposure.

CANCER INFORMATION - Methylene chloride is listed as a potential carcinogen by IARC and NTP. Methylene chloride has been shown to increase the rate of spontaneously occurring malignant tumors in the B6C3F1 mouse and benign tumors in laboratory rats. Methylene chloride is not believed to pose a measurable carcinogenic risk to man when handled as recommended.

MUTAGENICITY(EFFECTS ON GENETIC MATERIAL):METHYLENE CHLORIDE - Negative or equivocal results have been obtained in mutagenicity tests using mammalian cells or animals. Although results of Ames bacterial test have generally been positive, overall the data suggest that genotoxic potential does not appear to be significant factor in the toxicity of methylene chloride.

OTHER DATA - Laboratory animals exposed by various routes to high doses of xylene showed evidence of effects in the liver, kidneys, lungs, spleen, heart, and adrenals. Rats exposed to xylene vapor during pregnancy showed embryo/fetotoxic effects. Mice exposed orally to doses producing maternal toxicity also showed embryo/fetotoxic effects. While there is no evidence that industrially acceptable levels of toluene vapors(E.G. the TLV) have

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Section 3 - Hazards Identification - Continued

produced cardiac effects in humans, animal studies have shown the inhalation of high levels of toluene produced cardiac sensitization, which may cause fatal changes in heart rhythms. Rats exposed to 1400ppm or 1200ppm of toluene for 14h/day for 4 or 5 weeks (respectively) exhibited high frequency hearing deficits. The significance of this information to man is unknown.

ROUTE(S) OF ENTRY: Inhalation, Ingestion, Skin Absorption

CARCINOGENIC:

NTP: NE

IARC MONOGRAPH: UN

OSHA: NE

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Section 4 - First Aid Measures

EMERGENCY AND FIRST AID PROCEDURES:

EYES: Irrigate immediately with water for at least 15 minutes.

SKIN: Wash off in flowing water or shower. Remove contaminated clothing and clean thoroughly before reuse.

INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

INHALATION: Remove to fresh air. If not breathing, give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen. Call a physician.

NOTE TO PHYSICIAN: Because rapid absorption may occur through lungs if aspirating and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs unless absolutely necessary. No specific antidote. Carboxyhemoglobinemia may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias.

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Section 5 - Firefighting Measures

FLASH POINT (METHOD USED): >140 (UN)

IGNITION SENSITIVITY: NA

EXPLOSION SEVERITY: NA

FLAMMABLE LIMITS: LEL: 1.0% @ 212F
UEL: 44.8% @ 212F

MINIMUM EXPLOSION CONCENTRATION: NA

IGNITION TEMPERATURE: NA

EXTINGUISHING MEDIA: Water fog, dry chemical, foam, or CO2. Do not use a direct water stream. Use water spray to cool nearby containers and structures exposed to fire.

SPECIAL FIRE FIGHTING PROCEDURES: Wear positive pressure self-contained breathing apparatus, or air-supplied fully encapsulating suit.

UNUSUAL FIRE AND EXPLOSION HAZARDS: May form flammable vapor-air mixtures. Autoignition temperture not determined. Avoid accumulation of water because this product may float on water and may reignite on the surface of the water. Extinguish all nearby sources of ignition. Vapors formed from this product are heavier than air and may travel along the surface to a distant source of ignition and flashback.

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Section 6 - Environmental Release Measures

ACTION TO TAKE FOR SPILL/LEAKS: Small spills: Mop up, wipe up or soak up immediately. Remove to out of doors. Large spills: Evacuate area. Contain liquid; transfer to closed metal containers. Keep out of water supply. Always wear appropriate protective equipment.

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Section 7 - Handling and Storage

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Handle with reasonable care. Avoid breathing vapors. Store in a cool place. Concentrated vapors of this product are heavier than air and may collect in low areas such as pits, degreaser, storage tanks, and other confined areas. Do not enter areas where vapors of this product are suspected unless special breathing apparatus is used and an observer is present for assistance.

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Section 8 - Exposure Controls/Personal Protection

RESPIRATORY PROTECTION(SPECIFY TYPE): Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. For emergency and other conditions where the exposure guideline may be greatly exceeded, such as confined or poorly ventilated area, use an approved positive-pressure self-contained breathing apparatus.

VENTILATION: Control airborne concentrations below the exposure guideline. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Lethal concentrations may exist in areas with poor ventilation.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend in the operation.

EYE PROTECTION: Use chemical goggles.

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Section 9 - Physical and Chemical Properties

BOILING POINT(760 MM HG)	:	104-289F
MELTING POINT	:	NA
SPECIFIC GRAVITY(H2O=1)	:	1.3 (25/25C)
EVAPORATION RATE (BuAc=1)	:	UN
VAPOR DENSITY(air=1)	:	>1
VAPOR PRESSURE AT 20 deg C	:	25-355MM Hg
PERCENT VOLATILE BY VOLUME(%)	:	>85
SOLUBILITY IN WATER	:	Slight at 25C
APPEARANCE & ODOR	:	Colorless liquid. Irritating odor at high concentrations.

(See Section 16 for abbreviations)

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Section 10 - Stability and Reactivity

STABILITY:

CONDITIONS TO AVOID: Avoid open flames, welding arcs, or other high temperature sources which induce thermal decomposition to irritating and corrosive HCL from solvent vapor. High energy sources such as welding arcs can cause degradation generating chlorine, hydrogen chloride and possibly phosgene, and should be avoided. Hydrolysis producing small amounts of hydrochloric acid possible with gross water contamination.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong bases: caustic soda, caustic potash. Oxidizers. Metallic aluminum and zinc powders should be avoided. Avoid contact with amines, possibly sodium, potassium, and magnesium.

HAZARDOUS DECOMPOSITION PRODUCTS: Involvement in fire or high temperatures forms carbon monoxide, carbon dioxide, hydrogen chloride and very small amounts of phosgene & chlorine. Solvent decomposition occurs when catalyzed by metal chlorides which can be produced by reaction of HCL and metals in the system. In the presence of aluminum and excessive water the decomposition can proceed rapidly with production of large amounts of heat and HCL fumes.

HAZARDOUS POLYMERIZATION: Will not occur.

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Section 11 - Toxicological Information

See section 3

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Section 12 - Ecological Information

Not available.

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Section 13 - Disposal Considerations

DISPOSAL METHOD: When disposing of the unused contents, the preferred options are to send to licensed reclaimers, or to permitted incinerators. Any disposal practice must be in compliance with federal, state and local laws and regulations. NOTE: Empty containers can have residues, gases and mists and are subject to proper waste disposal.

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Section 14 - Transport Information

SHIPPING NAME: Trichloroethylene (Solvent Mixture) Non-Flammable Liquid

PACKAGING GROUP: III (ORM-D)

DOT HAZARD CLASS: 6.1 (ORM-D)

UN/NA#: UN 1710

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Section 15 - Regulatory Information

SARA SECTION 313: If the above ingredients followed by a "+", they are listed in 40 CFR 372.65 Superfund Amendments and Reauthorization Act (SARA) Section 313, and are present in quantity greater than the "de minimis" concentration. Therefore those ingredients followed by a "+" are subject to the reporting requirements of SARA Section 313.

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Section 16 - Other Information

ABBREVIATIONS: NA - Not Applicable, NE - Not Established, UN - Unavailable,
Y - Known, P - Suspect

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