MATERIAL SAFETY DATA SHEET

SECTION I

TRADE NAME: BARGE A.P. CEM.
MANUFACTURER CODE: I.D. J90030

SECTION II - HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>% BY WGT</th>
<th>CAS No.</th>
<th>PPM MG/CM²</th>
<th>EXPOSURE LEVEL</th>
<th>SARA 313</th>
<th>VP 20° C</th>
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<tbody>
<tr>
<td>TOLUENE</td>
<td>50</td>
<td>108-88-3</td>
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<td>188</td>
<td>OSNA-PEL</td>
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<td>ETHYL ACETATE</td>
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<td></td>
<td>2.0</td>
<td>UFL</td>
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<tr>
<td>ALIPHATIC HYDROCARBON</td>
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<td>SILICA, AMORPHOUS</td>
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</table>

LFL = LOWER FLAMMABILITY LIMIT PERCENT
UFL = UPPER FLAMMABILITY LIMIT PERCENT
SKIN = SKIN ABSORPTION MUST BE CONSIDERED AS A ROUTE OF EXPOSURE
E-CEILING = ALLOWED EXPOSURE LEVEL SHOULD NOT BE EXCEEDED FOR ANY TIME PERIOD
MFR = MANUFACTURER RECOMMENDED EXPOSURE LIMIT
STEL = SHORT TERM EXPOSURE LIMIT
SARA 313 = CHEMICAL IS SUBJECT TO REPORTING REQUIREMENTS OF SECTION 313 OF TITLE 31 OF S.A.R.A. 40 CFR PART 370

SECTION III - HEALTH INFORMATION

EFFECTS OF SHORT TERM OVEREXPOSURE

SALIVATION
- Can cause gastro-intestinal irritation, nausea, and vomiting. Aspiration of material into lungs may cause chemical pneumonitis which can be fatal.
- May cause nose or throat irritation. High concentrations may cause acute central nervous system depression characterized by headaches, dizziness, nausea and confusion.
- May cause eye irritation.
- May cause defatting and irritation of the skin.

EFFECTS OF REPEATED OVEREXPOSURE

The OSHA Permissible Exposure Limit for amorphous silica is 20 Mppcf or XSI0.
- Reports have associated prolonged and repeated occupational overexposure to solvents with permanent brain and nervous system damage, intentional misuse by deliberately concentrating and inhaling the contents may be significant;
- Laboratory data with possible relevance to human health; none currently known.

SECTION IV - FIRST AID AND EMERGENCY PROCEDURES

INGALATION
- If swallowed do not induce vomiting. Call poison control center or physician immediately.
- Remove to fresh air immediately. If breathing has stopped, give artificial respiration. Keep warm and quiet. Get medical attention immediately.
- Flush with large amounts of water, lifting upper and lower lids occasionally. Continue for at least 15 minutes. Get medical attention.

SKIN
- Remove contaminated clothing. Use waterless skin cleaner followed by soap and water wash. Obtain medical attention if irritation persists.
- Remove contaminated clothing. Wash affected area with soap and water.
SECTION IV. FIRST AID AND EMERGENCY PROCEDURES (CONTINUED)

SECTION V. PHYSICAL DATA

BOILING RANGE 1365 deg. F. (76 deg. C.) TO 359 deg. F. (182 deg. C.)
JAPOR DENSITY Heaver than air. % VOLATILE BY VOLUME 81
EVAPORATION RATE Slower than ethyl ether.
      VOC 5.65 lb/gal less water & NHEX 678 g/l less water
SPECIFIC GRAVITY 0.9
WIGHT LB./GAL. 1.76
SPECIFIC GRAVITY 0.9

All physical data determined at 88 deg. F. (30 deg. C.) 760 mm Hg
Negligibly Photochemically Reactive Materials

SECTION VI. FIRE AND EXPLOSION DATA

FLASHPOINT 25 deg. F. (SFCC)
EXTINGUISHING MEDIA Use NFPA Class B fire extinguishers. (carbon dioxide, all purpose dry chemical)
NUSUAL FIRE AND EXPLOSION HAZARDS. Purging emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES
Water may be ineffective, but may be used to cool exposed containers to prevent fire. Foam is preferred for large fires.

SECTION VII - REACTIVITY DATA

STABILITY Normally stable.
COMPATIBILITY (MATERIALS TO AVOID)
AZAROUS DECOMPOSITION PRODUCTS
Burning, including when heated by welding or cutting, will produce smoke, carbon monoxide and carbon dioxide. In addition, hydrogen chloride, chlorine may be generated.
AZAROUS POLYMERIZATION CONDITIONS TO AVOID

SECTION VIII. ENVIRONMENTAL INFORMATION

TEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
Keep spectators away. Eliminate all ignition sources (flames, hot surfaces, electrical, static or frictional sparks).
Dike and contain spill with inert material (e.g. sand, earth, concrete, sand). Transfer liquids to covered metal containers for recovery or disposal. Use only non-sparking tools. Place absorbent material in covered metal containers for disposal. Prevent contamination of sewers, streams, and groundwater with spilled material or used absorbent.
ASTE DISPOSAL Dispose in accordance with federal, state and local regulations.
NGE Classification: This product, if discarded directly would be classified a hazardous waste based on its ignitability characteristics i.e., has a flash point of 20 deg. F. (60 deg. C.) or less. The proper KER classification would be D021.
ENVIRONMENTAL HAZARDS None known.

SECTION IX. PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION Proper selection of respiratory protection depends upon many factors including duration/level of exposure and conditions of use. In general, exposure to organic chemicals such as this product may not require the use of respirators if used in well ventilated areas. In restricted ventilation areas a NIOSH approved chemical cartridge respirator may be required. Under certain conditions, it may be required in confined areas use a NIOSH/MSHA approved air supplied respirator. If the TLV's listed in Section II.

OTHER PROTECTIVE EQUIPMENT

DATE 4/04/97

IN

OBTAIN MEDICAL ATTENTION IF IRRITATION PERSISTS.

NOTES TO PHYSICIAN

ANY TREATMENT THAT MIGHT BE REQUIRED FOR OVEREXPOSURE SHOULD BE DIRECTED AT THE CONTROL OF SYMPTOMS AND THE CLINICAL CONDITIONS.
SECTION IX - PERSONAL PROTECTION INFORMATION (CONTINUED)

** RESPIRATORY PROTECTION **
are exceeded use a properly fitted NIOSH/MSHA approved respirator with an appropriate protection factor. Refer to OSHA 29 CFR 1910.134 "Respiratory Protection" and "Respiratory Protection A Manual And Guideline, American Industrial Hygiene Assoc."

** VENTILATION **
Provide local exhaust ventilation in sufficient volume and pattern so as to maintain exposures below nuisance dust limits and permissible exposure limits which may be listed in Section II. Refer to Industrial Ventilation - A Manual for Recommended Practice - American Conference Of Governmental Industrial Hygienists.

** HAND PROTECTION **
Solvent impermeable gloves are required for repeated or prolonged contact.

** EYE PROTECTION **
Wear safety spectacles.

** OTHER PROTECTIVE EQUIPMENT **
Not likely to be needed.

SECTION X - SPECIAL PRECAUTIONS

** PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE **

** OTHER PRECAUTIONS **
Do not take internally. Close container after each use.

Empty containers must not be washed and re-used for any purpose.

Containers should be drained and bonded to the receiving container.

Do not weld, braze or cut on empty container.

Never use pressure to empty.臭气 is not a pressure vessel.

SECTION XI - OTHER INFORMATION

** TRANSPORTATION INFORMATION **

<table>
<thead>
<tr>
<th>MODE</th>
<th>PROPER SHIPPING NAME</th>
<th>CLASS</th>
<th>I.D.#</th>
<th>PKG GRP</th>
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<tbody>
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<td>AIR</td>
<td>ADHESIVES PASS:305-5L CARGO:307-60L LABEL:FLAMMABLE LIQUID</td>
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THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. WHILE THE INFORMATION IS BELIEVED TO BE RELIABLE, NO WARRANTY IS EXPRESSED OR IMPLIED TO THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SINCE THE USE OF THIS INFORMATION AND THE CONDITIONS AND USE OF THIS PRODUCT ARE CONTROLLED BY THE USER, IT IS THE USER'S OBIGATION TO DETERMINE THE CONDITIONS OF SAFE USE OF THE PRODUCT.

The Corporate Safety and Environmental Affairs Department is responsible for the preparation of this Material Safety Data Sheet.

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