

**MSDS.465 – SPARTIC-ALL™ RM – Part A**

Revised: 5.22.08

**EMERGENCY ASSISTANCE**

**For Chemical Emergency Spill, Leak, Fire or Exposure call 24 hours a day: CHEMTREC (800) 424-9300. Outside the U.S. call (703) 527-3887 (Collect calls accepted).**

PRODUCT IDENTITY: SPARTIC-ALL™ RM Part A

MSDS DATE: 05/22/2008

**MATERIAL SAFETY DATA SHEET**

This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1, using the International Chemical Safety Cards of the Global Harmonizing System.

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD)

IMPORTANT: Read this MSDS before handling & disposing of this product. Pass this information on to employees, customers, & users of this product.

**SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY**

PRODUCT IDENTITY: SPARTIC-ALL™ RM Part A  
COMPANY IDENTITY: Elite Crete Systems, Inc.  
COMPANY ADDRESS: 1061 Transport Drive  
COMPANY CITY: Valparaiso, Indiana 36282  
COMPANY PHONE: 1-219-465-7671  
CHEMTREC PHONE: 1-800-424-9300

**SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS**

CONTAINS: 90-100% 1,6-HEXAMETHYLENE DIISOCYANATE BASED POLYISOCYANATE (28182-81-2)

Number in parentheses is CAS #, number in brackets is European EC #.

**SECTION 3. HAZARDS IDENTIFICATION**

RISK STATEMENTS:  
R36/37/38 - Irritating to eyes, respiratory system, skin.

SAFETY STATEMENTS:  
S24/25 - Avoid contact with skin and eyes.

**SECTION 4. FIRST AID MEASURES**

EYE CONTACT:  
For eyes, flush with plenty of water for 15 minutes & get medical attention. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Then remove contact lenses, if easily removable, and continue eye irrigation for not less than 15 minutes. Get medical attention if irritation develops.

SKIN CONTACT:  
In case of contact with skin immediately remove contaminated clothing. Wash thoroughly with soap & water. Wash contaminated clothing before reuse. For severe exposures, immediately get under safety shower and begin rinsing. Get medical attention if irritation develops and persists.

INHALATION:  
After high vapor exposure, remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR). Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening.

**SWALLOWING:**

Do not induce vomiting. Wash mouth out with water. Do NOT give liquids to an unconscious or convulsing person. Get medical attention.

**NOTES TO PHYSICIAN:**

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.

Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.

Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

**SECTION 5. FIRE FIGHTING MEASURES**

**FIRE & EXPLOSION PREVENTIVE MEASURES**

No open fires.

**EXTINGUISHING MEDIA**

Use appropriate extinguishing media for surrounding fires.

**SPECIAL FIRE FIGHTING PROCEDURES**

Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used. Do not enter confined fire-space without full bunker gear (Helmet with face shield, bunker coats, gloves & rubber boots). Use NIOSH approved positive-pressure self-contained breathing apparatus.

**UNUSUAL EXPLOSION AND FIRE PROCEDURES**

Keep container tightly closed. Closed containers may explode if exposed to extreme heat. Applying to hot surfaces requires special precautions. Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**PERSONAL PROTECTIVE MEASURES:**

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded.

Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapors or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breath smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.

**CONTAINMENT AND CLEAN-UP MEASURES:**

Stop spill at source. Ventilate. Dike and contain the spill to prevent spread into drains, sewers, water supplies, or soil.

Major Spill or Leak (Standing liquid): To minimize vapor, cover the spillage with fire fighting foam (AFFF). Released material may be pumped into closed, but not sealed, metal container for disposal. Released material may be pumped into closed, but not sealed, metal container for disposal. Process can generate heat.

Minor Spill or Leak (Wet surface): Cover spill area with suitable absorbent material (Kitty Litter, Oil-Dri, and so on). Saturate absorbent material with neutralization solution and mix. Wait 15 minutes. Collect material in open-head metal containers. Repeat applications of decontamination solution, with scrubbing, followed by absorbent until the surface is decontaminated. Check for residual surface contamination. Test kits have been used for this purpose. Apply lid loosely and allow containers to vent for 72 hours to let Carbon Dioxide (CO<sub>2</sub>) escape.

## SECTION 7. HANDLING AND STORAGE

### HANDLING

Use only with adequate ventilation. Avoid prolonged or repeated contact with skin. Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier. Wear gloves, apron & footwear impervious to this material. Wash clothing before reuse.

### STORAGE

Do not store above 49 C/120 F. Keep container tightly closed & upright when not in use to prevent leakage.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### RESPIRATORY EXPOSURE CONTROLS

A respirator that is recommended or approved for use in isocyanate-containing environments (air-purifying or fresh air-supplied) may be necessary for spray applications or other situations such as high temperature use which may produce inhalation exposures. A supplied-air respirator (either positive pressure or continuous flow-type) is recommended. Before an air-purifying respirator can be used, air monitoring must be performed to measure airborne concentrations of HDI monomer and HDI polyisocyanate. Specific conditions under which air-purifying respirators can be used are outlined in the following sections. Observe OSHA regulations for respirator use (29 CFR 1910.134).

### SPRAY APPLICATION:

A: Good industrial hygiene practice dictates that when isocyanate-based coatings are spray applied, some form of respiratory protection should be worn. During the spray application of coatings containing this product the use of a supplied-air (either positive pressure or continuous flow-type) respirator is mandatory when ONE OR MORE of the following conditions exists: The airborne isocyanate concentrations are not known, or: The airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit), or: The airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m<sup>3</sup> averaged over 8 hours or 10 mg/m<sup>3</sup> averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits), or: Operations are performed in a confined space (See OSHA Confined Space Standard, 29 CFR 1910.146). A properly fitted air-purifying (combination organic vapor and particulate) respirator, proven by test to be effective in isocyanate-containing spray paint environments, and used in accordance with all recommendations made by the manufacturer, can be used when ALL of the following conditions are met: The airborne isocyanate monomer concentrations are known to be below 0.05 ppm averaged over eight (8) hours (10 times 8 hour TWA exposure limit), and The airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m<sup>3</sup> averaged over 8 hours or 10 mg/m<sup>3</sup> averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits) and A NIOSH-certified End of Service Life Indicator or a change schedule based upon objective information or data is used to ensure that cartridges are replaced before the end of their service life. In addition, pre-filters should be changed whenever breathing resistance increases due to particulate buildup.

### NON-SPRAY OPERATIONS:

A: During non-spray operations such as mixing, batch-making, brush or roller application, and so on, at elevated temperatures (for example, heating of material or application to a hot substrate), it is possible to be exposed to airborne isocyanate vapors. Therefore, when the coatings system will be applied in a non-spray manner, a supplied-air (either positive pressure or continuous flow-type) respirator is mandatory when ONE OR MORE of the following conditions exists: The airborne isocyanate concentrations are not known, or the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit), or the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m<sup>3</sup> averaged over 8 hours or 10 mg/m<sup>3</sup> averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits), or Operations are performed in a confined space (See OSHA Confined Space Standard, 29 CFR 1910.146). A properly fitted air-purifying (combination organic vapor and particulate) respirator, proven by test to be effective in isocyanate-containing paint environments, and used in accordance with all recommendations made by the manufacturer, can be used when ALL of the following conditions are met: The airborne concentrations of the isocyanate monomer are below 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit), and The airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m<sup>3</sup> averaged over eight (8) hours or 10 mg/m<sup>3</sup> averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits) and A NIOSH-certified End of Service Life Indicator or a change schedule based upon objective information or data is used to ensure that cartridges are replaced before the end of their service life. In addition, pre-filters should be changed whenever breathing resistance increases due to particulate buildup.

## EXPOSURE CONTROLS/PERSONAL PROTECTION

### VENTILATION;

LOCAL EXHAUST	: Necessary
MECHANICAL (GENERAL)	: Acceptable
SPECIAL	: None
OTHER	: None

Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

**HAND PROTECTION:**

Gloves should be worn, Nitrile rubber, butyl rubber, or Neoprene.

**EYE PROTECTION:**

When directly handling liquid product, eye protection is required. Examples of eye protection include chemical safety goggles, or chemical safety goggles in combination with a full face shield when there is a greater risk of splash. Consult Safety Equipment Supplier.

**SKIN AND BODY PROTECTION:**

Avoid all skin contact. Depending on the conditions of use, cover as much of the exposed skin area as possible with appropriate clothing to prevent skin contact. Gloves, long sleeved shirts and pants. Wear gloves, apron & footwear impervious to this material. Wash clothing before reuse.

**MEDICAL SURVEILLANCE:**

All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evaluation. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Applicants who have a history of adult asthma should be restricted from work with isocyanates. Applicants with a history of prior isocyanated sensitization should be excluded from further work with isocyanates. A comprehensive annual medical surveillance program should be instituted for all employees who are potentially exposed to diisocyanates. Once a worker has been diagnosed as sensitized to any isocyanate, no further exposure can be permitted.

**WORK & HYGIENIC PRACTICES:**

Provide readily accessible eye wash stations & safety showers. Wash at end of each work shift & before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

**SECTION 9. PHYSICAL DATA**

APPEARANCE:	Liquid, Colorless to light yellow
ODOR:	None
BOILING RANGE:	Not Applicable
AUTO IGNITION TEMPERATURE:	~ 435 C / 815 F
LOWER FLAMMABLE LIMIT IN AIR (% by vol):	Not Applicable
FLASH POINT (TEST METHOD):	193 C / 379 F
GRAVITY @ 68/68 F / 20/20 C:	1.150
SPECIFIC GRAVITY (Water=1):	9.58
POUNDS/GALLON:	9.58
VOC'S (>0.44 Lbs/Sq In):	0.0 Vol. % / 0.0 g/L / 0.000 Lbs/Gal
TOTAL VOC'S (TVOC):	0.0 Vol. % / 0.0 g/L / 0.000 Lbs/Gal
NONEXEMPT VOC'S (CVOC):	0.0 Vol. % / 0.0 g/L / 0.000 Lbs/Gal
HAZARDOUS AIR POLLUTANTS (HAPS):	0.0 Wt. % / 0.0 g/L / 0.000 Lbs/Gal
VAPOR PRESSURE (mm of Hg)@20 C:	5.2 x 10 <sup>-9</sup>
NONEXEMPT VOC PARTIAL PRESSURE (mm of Hg @ 20 C):	0.0
VAPOR DENSITY (air=1):	Not Applicable
WATER ABSORPTION:	Negligible

**SECTION 10. STABILITY & REACTIVITY**

**STABILITY**

Stable under normal conditions.

**CONDITIONS TO AVOID**

Not Applicable.

**MATERIALS TO AVOID**

Water, amines, strong bases, alcohols, copper alloys. Contact with moisture, other materials that react with isocyanates, or temperatures above 350 F (177 C), may cause polymerization.

**HAZARDOUS DECOMPOSITION PRODUCTS**

By fire and high heat: Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke, hydrogen cyanide, isocyanate, isocyanic acid, other undetermined compounds.

HAZARDOUS POLYMERIZATION  
Will not occur.

**SECTION 11. TOXICOLOGICAL INFORMATION**

MATERIAL	CAS #	TWA (OSHA)	TLV (ACGIH)	HAP
Homopolymer of Hexamethylene Diisocyanate	28182-81-2	None Known	None Known	No

This product contains no EPA Hazardous Air Pollutants (HAP) in amounts > 0.1%.

CEILING	STEL(OSHA/ACGIH)
None Known	None Known

**ACUTE HAZARDS**

**EYE & SKIN CONTACT:**  
Primary irritation to skin, defatting, dermatitis.  
Primary irritation to eyes, redness, tearing, blurred vision.  
Liquid can cause eye irritation. Wash thoroughly after handling.

**INHALATION:**  
Vapor harmful.

**SWALLOWING:**  
Swallowing can cause abdominal irritation, nausea, vomiting & diarrhea.

**SUBCHRONIC HAZARDS/CONDITIONS AGGRAVATED**

**CONDITIONS AGGREGATED:**  
None Known.

**CHRONIC HAZARDS**  
**CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS:**  
This product has no carcinogens listed by IARC, NTP, NIOSH, OSHA or ACGIH, as of this date, greater or equal to 0.1%.

**SECTION 12. ECOLOGICAL INFORMATION**

**MAMMALIAN INFORMATION:**  
**INHALATION TOXICITY**  
LC50, 4 hours (Rat: Male/Female) 390 - 453 mg/m3 aerosol  
Sensitization: (Guinea Pig, Maximisation) Sensitizer

**AQUATIC ANIMAL INFORMATION:**  
No aquatic environmental information is available on this product.

**MOBILITY**  
Mobility of this material has not been determined.

**DEGRADABILITY**  
This product is completely biodegradable.

**ACCUMULATION**  
Bioaccumulation of this product has not been determined.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Processing, use or contamination may change the waste management options. Recycle / dispose of observing national, regional, state, provincial and local health, safety & pollution laws. If in doubt, contact appropriate agencies.

## SECTION 14. TRANSPORT INFORMATION

DOT SHIPPING NAME: NONBULK: None  
BULK: If greater than the Reportable Quantity (33,333 lbs.):  
BULK: NA3082, Other regulated substances, liquid, n.o.s., (Hexamethylene-1,6-diisocyanate),9,PG-III

DRUM LABEL: 9

IATA / ICAO: UN3082, Environmentally hazardous substances, liquid, n.o.s., (Hexamethylene-1,6-diisocyanate),9,PG-III

IMO / IMDG: UN3082, Environmentally hazardous substances, liquid, n.o.s., (Hexamethylene-1,6-diisocyanate),9,PG-III

EMERGENCY RESPONSE GUIDEBOOK NUMBER: 171

## SECTION 15. REGULATORY INFORMATION

EPA REGULATION:  
SARA SECTION 311/312 HAZARDS: Acute Health, Chronic Health, Reactivity

All components of this product are on the TSCA list. This material contains no known products restricted under SARA Title III, Section 313 in amounts greater or equal to 1%.

Reportable Quantity: 33,333 Lbs.

Any release equal to or exceeding the RQ must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively.

Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

STATE REGULATIONS:  
CALIFORNIA PROPOSITION 65:  
To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

INTERNATIONAL REGULATIONS:  
The components of this product are listed on the chemical inventories of the following countries: Australia, Canada, China, Europe (EINECS), Japan, Korea, United Kingdom.

## SECTION 16. OTHER INFORMATION

HAZARD RATINGS:  
HEALTH (NFPA): 2, HEALTH (HMIS): 2, FLAMMABILITY: 1, REACTIVITY: 1  
(Personal Protection Rating to be supplied by user based on use conditions.)  
This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating systems.

EMPLOYEE TRAINING  
See Section 3 for Risk & Safety Statements. Employees should be made aware of all hazards of this material (as stated in this MSDS) before handling it.

NOTICE:  
The supplier disclaims all expressed or implied warranties of merchantability or fitness for a specific use, with respect to the product or the information provided herein, except for conformation to contracted specifications. All information appearing herein is based upon data obtained from manufacturers and/or recognized technical sources. While the information is believed to be accurate, we make no representations as to its accuracy or sufficiency. Conditions of use are beyond our control, and therefore users are responsible for verifying the data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product. Users also assume all risks in regards to the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.

Unless updated, this Material Safety Data Sheet is valid until 05/22/2014.