

TRÜNANO™

TRUNANO CONCRETE ARMOR  
MATERIAL SAFETY DATA SHEET

DATE OF PREPARATION  
June 14, 2010

**SECTION 1- PRODUCT AND COMPANY INFORMATION**

**COMPANY**

Evolution Surface Solutions  
7000 S. Cottonwood Street  
Midvale, Utah 84847  
855.878.6266  
[www.tru-nano.com](http://www.tru-nano.com)

**PRODUCT NAME**

TruNano Concrete Armor

**Regulatory Information** 800-424-8802

**Medical Emergency** 911

**Transportation Emergency\*** 800-424-9300

\*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)

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

Ingredient	C.A.S. Number	Concentration	ACGIH TLV	OSHA PEL
Acetone	67-64-1	55-65	500 ppm (TWA), 750 ppm (STEL)	1000 PPM
Trade Secret	Proprietary	8-12	--	--
Methyl Acetate	79-20-9	19-23	200 ppm	200 PPM

**SECTION 3-HAZARDS IDENTIFICATION**

**ROUTES OF EXPOSURE**

INHILATION of vapor or spray mist  
EYE or SKIN contact with the product, vapor, or spay mist

**EFFECTS OF OVEREXPOSURE**

**EYES:** severe irritation, redness  
**SKIN:** severe irritation, redness

**INHILATION:** coughing, dizziness, dullness, and headache (Irritation of the upper respiratory system)

**SIGNS AND SYMPTOMS OF OVEREXPOSURE**

severe irritation or dermatitis. Prolonged exposure to vapors can cause central nervous system depression, narcosis, and unconsciousness

**AGGRIVATION OF PRE-EXISTING CONDITIONS**

Use of alcoholic beverages enhances toxic effects. Exposure may increase the toxic potential of chlorinated hydrocarbons, such as chloroform, trichloroethane.

**CANCER INFORMATION**

For complete discussion of toxicology data refer to Section 11.

NFPA Est.	HMIS Est.
Health: 2	Health: 2
Fire: 2	Fire: 3
React: 0	React: 0
Contact: 3	Contact: 3

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**SECTION 4-FIRST AID MEASURES**

**EYES:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally.

**SKIN:** Immediately wash affected area thoroughly with soap and water for 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**INHILATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**INGESTION:** Aspiration hazard. If swallowed, vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**SECTION 5-FIRE FIGHTING MEASURES**

<b>FLASH POINT:</b>	<b>LEL</b>	<b>UEL</b>	<b>FLAMABILITY CLASSIFICATION</b>
-20C (-4F) CC	2.5	12.8	RED LABEL -- Flammable, Flash below 100 °F (38 °C)

**EXSTINGUISHING MEDIA**

Dry chemical, alcohol foam or carbon dioxide. Water may be ineffective. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapors.

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Vapors can flow along surfaces to distant ignition source and flash back. Contact with strong oxidizers may cause fire. Closed containers may explode when exposed to extreme heat. This material may produce a floating fire hazard sensitive to static discharge.

**SPECIAL FIRE FIGHTING PROCEDURES**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

**SECTION 6- ACCIDENTAL RELEASE MEASURES**

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section VII. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

**SECTION 7- HANDLING AND STORAGE**

**DOT STORAGE CLASS:** class 3

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

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**SECTION 8- EXPOSURE CONTROLS/PERSONAL PROTECTION**

**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation. Avoid contact with skin and eyes. Avoid breathing vapor and spray mist. Wash hands after using.

**VENTILATION SYSTEM**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**PERSONAL RESPIRATORS**

If the exposure limit is exceeded and engineering controls are not feasible, a properly fitted half-face organic vapor respirator (approved by NIOSH/MSHA) may be worn for up to ten times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece organic vapor respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**PROTECTIVE GLOVES**

Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

**SKIN PROTECTION**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**EYE PROTECTION**

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

**OTHER PRECAUTIONS**

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

**SECTION 9- PHYSICAL AND CHEMICAL PROPERTIES**

**VAPOR PRESSURE:** 400 mm Hg at 39.5° C

**VAPOR DENSITY:** Heavier than air

**SPECIFIC GRAVITY:** 0.79 @ 20C/4C

**BOILING POINT:** 56.5°C @ 760 mm Hg

**SOLUBILITY IN WATER:** Miscible in all proportions in water

**APPEARANCE:** Clear, colorless volatile liquid

**ODOR:** Fragrant, mint-like

**VOLATILE ORGANIC COMPOUNDS:** <100 g/l

**SECTION 10- STABILITY AND REACTIVITY**

**STABILITY:** Stable under ordinary conditions of use and storage.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon dioxide and carbon monoxide may form when heated to decomposition.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**INCOMPATIBILITIES:** Concentrated nitric and sulfuric acid mixtures, oxidizing materials, chloroform, alkalis, chlorine compounds, acids, potassium t-butoxide.

**CONDITIONS TO AVOID:** Heat, flames, ignition sources and incompatibles.

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**SECTION 11 – TOXICOLOGICAL INFORMATION**

Oral rat LD50: 5800 mg/kg; Inhalation rat LC50: 50,100mg/m<sup>3</sup>; Irritation eye rabbit, Standard Draize, 20 mg severe; investigated as a tumorigen, mutagen, reproductive effector.

<b>Ingredient</b>	<b>known</b>	<b>anticipated</b>	<b>IARC Category</b>
<b>Acetone (67-64-1)</b>	no	no	none
<b>Methyl Acetate (540-88-5)</b>	no	no	None

**SECTION 12- ECOLOGICAL INFORMATION**

**ENVIRONMENTAL FATE**

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released into water, this material is expected to readily biodegrade. When released to water, this material is expected to quickly evaporate. This material has a log octanol-water partition coefficient of less than 3.0. This material is not expected to significantly bioaccumulate. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material may be moderately degraded by photolysis. When released into the air, this material is expected to be readily removed from the atmosphere by wet deposition.

**ENVIRONMENTAL TOXICITY**

This material is not expected to be toxic to aquatic life. The LC50/96-hour values for fish are over 100 mg/l.

**SECTION 13 – DISPOSAL CONSIDERATIONS**

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

**SECTION 14 – TRANSPORT INFORMATION**

**DOT and IATA Hazard Classification:** Class 3 Flammable Liquid

**Proper DOT Shipping Name:** Coatings Solution

**Identification Number:** DOT – UN 1139 IATA – UN 1139

**SECTION 15-REGULATORY INFORMATION**

**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS number	Chemical Compound
67-64-1	Acetone
540-88-5	Methyl Acetate

**CALIFORNIA PROPOSITION 65**

This product does not contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**TSCA CERTIFICATION**

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

**SECTION 16 – OTHER INFORMATION**

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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**IMPORTANT  
LIABILITY DISCLAIMER**

The information contained in this Material Safety Data Sheet (MSDS) is believed to be correct as it was obtained from sources we believe are reliable. However, no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications, hazards connected with the use of the material, or the results to be obtained from the use thereof. User assumes all risks and liability of any use, processing or handling of any material, variations in methods, conditions and equipment used to store, handle or process the material and hazards connected with the use of the material are solely the responsibility of the user and remain at his sole discretion. Compliance with all applicable federal, state, and local laws and regulations remains the responsibility of the user, and the user has the responsibility to provide a safe work place, to examine all aspects of its operation and to determine if or where precautions, in addition to those described herein, are required