

TRÜNANO™

TRUNANO CONCRETE ARMOR BIOSURFACE
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

PRODUCT NAME

TruNano Concrete Armor BioSurface

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

FLASH POINT:	LEL	UEL	FLAMABILITY CLASSIFICATION
-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/m³; Irritation eye rabbit, Standard Draize, 20 mg severe; investigated as a tumorigen, mutagen, reproductive effector.

Ingredient	known	anticipated	IARC Category
Acetone (67-64-1)	no	no	none
Methyl Acetate (540-88-5)	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