



Section 1- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME Har-Tru		CHEMICAL FORMULA N/A
PRODUCT IDENTIFIERS Har-Tru, HydroBlend, Top Dressing, Coarse Blend, Florida Blend		
COMMON NAMES Aggregate, basalt, clay tennis court surfacing material, green clay		
MANUFACTURER/CONTACT INFO Luck Stone Corporation Risk Management P.O. Box 29682 Richmond, VA 23242		INFORMATION PHONE NUMBER 804-784-6300 (8am – 5pm Eastern Time Zone) (dial country code 01 when outside the USA)
PRODUCT USAGE AND DESCRIPTION The product is used in the construction and maintenance of clay tennis court surfaces. Har-Tru is distributed in bags and totes. Product presents as dust to small angular particles green in color with no odor.		

2- HAZARDS IDENTIFICATION

GHS and WHMIS Symbols			
			
GHS Classifications, Signal Word and Hazard Statements			
Target Organ Toxicity	Category 2	Warning	May cause damage to respiratory system through prolonged or repeated exposure. (H373)
Summary and Other Information			
<p>Har-Tru has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica. Prolonged or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of lung fibrosis are cough and breathlessness. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.</p> <p>Har-Tru does not meet the criteria for classification as dangerous as defined in Directive 67/548 EEC.</p> <p>Do not use material for Abrasive Blasting.</p>			

3- COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS Number	EINECS Number	% (APPROX.)
Particulate Not Otherwise Regulated	NA	NA	>20%
Aluminum Oxide	1344-28-1	215-691-6	14-35%
Calcium Oxide	1305-78-8	215-138-9	5-25%
Iron Oxide	1309-37-1	215-168-2	5-15%
Magnesium Oxide	1309-48-4	215-171-9	5-15%
Silica, Respirable Crystalline (Quartz)	14808-60-7	238-878-4	>1%
Calcium Sulfate Hemihydrate (Calcined Gypsum)	10034-76-1	231-900-3	0-6%
Ferro-Actinolite, Non-Asbestiform	13768-00-8	NA	0-6%
Ferro-Actinolite, Asbestiform	77536-66-4*	NA	≤0.1%

NOTE

Individual composition of the hazardous constituents of the product varies naturally based on the source material. Typically the source material contains feldspar, mica, and chlorite among other naturally occurring minerals. The source material has the potential to contain, as a minor constituent, naturally occurring asbestiform minerals.

The presence of an asterisk () following a CAS Registry Number indicates that the registration is for a substance which CAS does not treat in its regular CA index processing as a unique chemical entity.

4 – FIRST AID MEASURES

Eye Contact:	Rinse eyes thoroughly with water, including under eye lids. Beyond flushing, do not attempt to remove material from the eye(s). Seek medical attention if irritation persists.
Skin Contact:	Wash affected areas thoroughly with mild soap and fresh water. Seek medical attention for rash or persistent irritation.
Ingestion:	Non-toxic.
Inhalation:	Move person to fresh air. Seek medical attention if coughing or other symptoms do not subside.

5 - FIREFIGHTING MEASURES

Suitable extinguishing media	Does not burn. Use extinguishing media appropriate for surrounding fire.
Fire and explosion hazards	Contact with powerful oxidizing agents may cause fire and/or explosions. (See Section 10 of MSDS.) Otherwise, this material is non-combustible and non-explosive and will not facilitate nor support combustion of other materials.
Special protective actions for fire-fighters	No need for special protective equipment for fire fighters.

6 – ACCIDENTAL RELEASE MEASURES

Personal precautions	Spilled materials, where dust can be generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Wear protective equipment as described in Section 8 and follow the advice for safe handling and use given in Section 7. Emergency procedures are not required.
Environmental precautions	Prevent spilled material from entering streams, drains, or sewers.
Methods for cleaning	Pickup and reuse clean materials. If possible, wet spilled material to prevent dust generation or use vacuum. Do not dry sweep or use compressed air for clean-up. See Section 13 for disposal considerations.

7- HANDLING AND STORAGE

Handling	Respirable crystalline silica-containing dust may be generated when handling this product or when cutting products such as concrete or asphalt made from this product. Use dust controls and personal protection identified in Section 8 of this MSDS as appropriate. Avoid actions such as dry sweeping or using compressed air that cause dust to become airborne
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	during clean-up.
Storage	<p>Stacked bagged material in a secure manner to prevent falling. Bagged aggregate is heavy and poses risks such as sprains and strains to the back, arms, shoulders and legs during lifting and mixing.</p> <p>Engulfment hazard. To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, or other storage container or vessel that stores or contains this product. Dust can build up or adhere to the walls of a confined space and then release, collapse, or fall unexpectedly</p> <p>Use engineering controls (e.g., wetting stockpiles) to prevent windblown dust from stockpiles, which may cause the hazards described in Section 3.</p>

8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE LIMITS

Component	OSHA PEL mg/m ³	MSHA PEL mg/m ³	ACGIH TLV mg/m ³	NIOSH REL mg/m ³
Aluminum Oxide	15 (T), 5 (R)	10 (T), 5 (R)	NE	NE
Asbestos	0.1 fibers/cc	0.1 fibers/cc	0.1 fibers/cc	NA
Calcium Oxide	15 (T), 5 (R)	10 (T), 5 (R)	2	2
Calcium Sulfate	15 (T), 5 (R)	10 (T), 5 (R)	10 (I)	10 (T), 5 (R)
Iron Oxide	15 (T), 5 (R)	10 (T), 5 (R)	5 (R)	5
Magnesium Oxide	15 (T), 5 (R)	10 (T), 5 (R)	10 (I)	15 (T), 5 (R)
Particulate Not Otherwise Regulated	15 (T), 5 (R)	10 (T), 5 (R)	Recommendation 10 (I), 3 (R)	15 (T), 5 (R)
Silica, Respirable Crystalline (Quartz)	Use Formulas below	Use Formulas below	0.025 (R)	0.05 (R)
Respirable Dust Containing >1% Silica	10 mg/m ³ ÷ (%silica + 2)	10 mg/m ³ ÷ (%silica + 2)	NE	NE
Total Dust Containing >1% Silica	30 mg/m ³ ÷ (%silica + 2)	30 mg/m ³ ÷ (%silica + 3)	NE	NE
Legend: NE = Not Established; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit; MSHA = Mining Safety and Health Administration; ACGIH = American Conference of Governmental Industrial Hygienists; TLV = Threshold Limit Value; NIOSH = National Institute of Occupational Safety and Health; REL = Recommended Exposure Limit; mg/m ³ = milligrams per cubic meter of air; cc=cubic centimeters of air; T = Total Dust; R = Respirable Dust; I = Inhalable				
Engineering Controls	Use local exhaust or general ventilation, wet suppression, or other engineering controls in order to maintain exposures below PEL exposures.			
Eye Protection	Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessively dusty conditions are present or anticipated.			
Skin Protection	Use gloves to protect hands from abrasion. Remove clothing and protective equipment that becomes dusty and launder before reusing.			
Respiratory Protection	The need for respiratory protection should be evaluated by a qualified safety and health professional. When exposures exceed applicable limits, respiratory protection is required. Respirators used must be NIOSH-approved for the exposure(s) present. Respirator use must comply with applicable OSHA or MSHA regulations.			
Hygiene	Wash dust-exposed skin with soap and water before eating, drinking, and smoking. Wash work clothes after each use.			
Other	Respirable dust levels should be monitored regularly to determine worker exposure levels. Exposure levels in excess of applicable limits should be reduced by feasible engineering controls. Personal protective equipment, including respirators, should be used when controls are not feasible or do not bring exposure below applicable limits.			

9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor	Dust to small angular particles green in color with no odor.		
Physical State	Solid	pH	N/A
Melting Point/Freezing Point	N/A	Boiling Point and Range (1Atm)	N/A
Flash Point	Non-combustible	Flammability	Non-combustible
Lower Flammability Limit	N/A	Upper Flammability Limit	N/A

Vapor Pressure (mm Hg @ 20°C)	N/A	Vapor Density in Air (Air = 1) and Relative Density	N/A
Solubility in Water	Negligible	Partition coefficient: n-octanol/water	N/A
Auto-ignition temperature	N/A	Decomposition temperature	N/A
Viscosity	None - solid	Evaporation Rate (at 1 Atm, and 25°C; n-butyl acetate = 1)	N/A
Specific Gravity	2.6 - 2.8		

10 – STABILITY AND REACTIVITY

Reactivity	Not reactive under normal temperatures and pressures
Stability	Stable under normal temperatures and pressures
Conditions to Avoid	Contact with incompatible materials should be avoided. (See below.)
Incompatible Materials	Silicates may react with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, and oxygen difluoride. Silica dissolves in hydrofluoric acid producing a corrosive gas – silicon tetrafluoride.
Hazardous Decomposition or Byproducts	Silica-containing respirable dust particles may be generated by handling. See Section 8 for information on controlling exposure.

11 – TOXICOLOGICAL INFORMATION

Inhalation (acute):	Inhalation of dust may cause irritation of the nose, throat and respiratory tract by mechanical abrasion.
Inhalation (chronic):	<p>Prolonged and repeated or massive inhalation of respirable crystalline silica-containing dust in excess of appropriate exposure limits can cause silicosis, a pulmonary fibrosis caused by deposition of fine respirable particles of crystalline silica. Persons with silicosis have an increased risk of pulmonary tuberculosis infection and lung cancer. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and renal disorders, though some studies have refuted this claim.</p> <p>The source material for this product has the potential to contain, as a minor constituent, naturally occurring asbestiform minerals. Repeated inhalation of asbestos in excess of appropriate exposure limits can cause asbestosis, lung cancer, and mesothelioma. Studies have shown that exposure to non-asbestiform rocks fragments does not cause asbestos disease.</p> <p>See References in Section 16 for further information.</p>
Medical conditions aggravated by exposure:	Inhalation of respirable dust may aggravate existing respiratory diseases and/or dysfunctions, e.g., bronchitis, emphysema, chronic obstructive pulmonary disease, asthma.
Target organ:	Lungs
Carcinogenicity:	<p>Respirable crystalline silica, a component of this product, has been listed as a known human carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP).</p> <p>Asbestos, a potential trace component of this product, has been listed as a known human carcinogen by the IARC and the NTP.</p>

12 – ECOLOGICAL INFORMATION

Ecotoxicity	No specific data on this product. Not expected to be toxic to aquatic organisms.
Environmental fate	No specific data on this product. Not expected to degrade.
Other	Do not allow this product to be released to the environment in excess of permissible limits.

13 – DISPOSAL CONSIDERATIONS

Disposal methods	Dispose of waste in accordance with Federal, State, Provincial, and local regulations. Prevent from entering drainage, sewage systems, and unintended bodies of water.
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Hazardous waste	No. If discarded in its purchased form, this product would not be a hazardous waste either by listing or characteristic. However, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (See Section 15.)
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14 – TRANSPORTATION INFORMATION

DOT	This product is not classified as a Hazardous Material under US Department of Transportation (DOT) regulations.
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15 – REGULATORY INFORMATION

OSHA and MSHA Hazard Communication	This product is considered by the Occupational Safety and Health Administration (OSHA) and the Mining Safety and Health Administration (MSHA) to be hazardous and should be included in the employer's hazard communication program.	
California Proposition 65	WARNING. This product contains a chemical (crystalline silica) known to the State of California to cause cancer.	
CERCLA/Superfund	This product is not listed as a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substance.	
RCRA	If discarded in its purchased form, this product would not be a hazardous waste either by listing or characteristic under the Resources Conservation and Recovery Act (RCRA).	
TSCA	The components of this product are in compliance with the chemical notification requirements of the Toxic Substances Control Act (TSCA).	
SARA Title III	Sections 311/312	This product is considered a hazardous chemical and a delayed health hazard (due to silica content).
	Section 313	This product contains none of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA).
WHMIS, Canada	This product has been classified in accordance with the hazard criteria of the <i>Controlled Products Regulations</i> and the SDS contains all the information required by the <i>Controlled Products Regulations</i> , per the Workplace Hazardous Materials Information System (WHMIS)	

16 – OTHER INFORMATION

Revision Date	November 01, 2009. Revisions to Sections 1-16.
Supersedes MSDS Dated	May 20, 2001
References	<p>*Birk, T. (2009) Mortality in the German Porcelain Industry 1985-2005. <i>J Occup Environ Med</i>, Vol 51, No 3, pp 373-385</p> <p>*DHHS (NIOSH) Publication No. 2002-129, <i>Health Effects of Occupational Exposure to Respirable Crystalline Silica</i></p> <p>*European Union Council, Scientific Committee for Occupational Exposure Limits, <i>SUM Doc 94-final, June 2003</i></p> <p>*Ilgren, E.B. (2004) The Biology of Cleavage Fragments. <i>Indoor Built Environ</i>, Vol 13, No 5, pp 343-356</p>
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End of Safety Data Sheet