SDS SHEET

SECTION 1 Identification

Product identifier	Hydro - Tuff CS-100
Other means of identification	Styrene Butadiene Styrene (SBS Modified Bitumen Roofing Sheets)
Recommended use	Not available
Recommended restrictions	None known
	Manufacturer/Importer/Supplier/Distributor Information
Manufacturer:	Hydro-Gard, LLC
Address:	18340 Yorba Linda Blvd, Suite 107, Box 304, Yorba Linda CA 92886
Contact Name:	Sara Sears
Telephone:	562/944-7030 Fax: 562/944-7030
E-mail:	saras@hydro-gard.com
Incident Spill, Leak, Fire, Exposure, or Accident	CHEMTREC Day or Night 1-800-424-9300 / +1 703-527-3887 CCM825652911

SECTION 2 Hazard (s) Identification

As defined in the OSHA Hazard Communication Standard, 29 CFR1910.1200 the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When the products are handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are release in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements Hydro-Gard shall disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker safety training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

General:	Under normal use conditions, this product is not expected to-create any unusual emergency hazards.
Appearance and Odor	Black sheet in roll form Surfaces may include roofing granules, sand, slag, talc or a polyethylene film. Slight asphaltic odor when heated.
<u>Potential Health Hazards:</u>	
Primary Exposure Routes	
Primary:	Nuisance dust - inhalation, irritation - skin and eye contact.
Eye Contact:	May cause irritation to the eyes. Eye irritation may be treated by flushing eyes with large amounts of water. If irritation persists, seek medical attention. Contact with hot product is abnormal and a possible emergency circumstance because of its adhesive and temperature features, the molten asphalt contact with eyes may cause physical eye damage due to adhesive properties as well as thermal burns. Seek medical attention immediately in case of eye contact with molten asphalt contact.
Skin Contact:	May cause irritation (itching) to the skin. Skin irritation may be treated by gently washing affected area with soap and warm water. Contact with molten asphalt can result in physical injury/damage and thermal burns. Seek medical attention immediately in case of molten asphalt contact.
Ingestion:	This product is not intended to be ingested. If ingested, it may cause irritation of the digestive system.

Inhalation:	May cause irritation of the upper respiratory tract. Acute exposure may irritate mucous membranes with tightness in chest. Coughing, wheeziness, or congestion. Individuals affected should be moved to fresh air.
Acute Health Hazards	NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctive (eye irritation) and mucous membranes of the upper respiratory tract (nasal and throat irritation).
Chronic Health Hazards:	Occupational exposures to asphalt, oxidized asphalt, silica and formaldehyde, which may occur from these products during abnormal conditions of use or emergencies, have been found to be probable or known human carcinogens, and may cause serious irreversible lung diseases and other non-cancerous effects. See Section 11 of this document.
Medical Conditions Aggravated by Exposure:	Exposure to dust may aggravate pre-existing upper respiratory and lung diseases or conditions.

SECTION 3 Composition / Information on Ingredients

This material is not considered hazardous by the OSHA Hazard Communications Standard (29 CFR 1910.1200)

Chemical name	Common name and synonyms	CAS number	%	Trade Secret
ASPHALT	Asphalt	8052-42-4	30 - 55	-
Calcium Carbonate	Limestone	1317-65-3	25 - 50	-
Styrene Butadiene Polymer	Styrene Butadiene Polymer	9003-55-8	5 - 20	-
Crystalline Silica	Rose quartz/sad	14808-60-7	0.1 - 1	-
Coal Slag	Coal Slag	n/a	0 - 40	-
Polyester fiber	Polyester fibre	n/a	0 - 10	-
Fiberglass Mat or Filament glass Fiber	Fiberglass Mat or Filament glass fibre	65997-17-3	0 - 10	-
Gilsonite Resin	Uintahite	12002-43-6	0 - 5	-
Talc (containing no asbestos fibers)	Talcum	14807-96-6	0 -1	-

Coal Slag is a mixture containing Amorphous Silicon Dioxide, Aluminum Oxide, Iron Oxide, Calcium Oxide, Potassium Oxide, Titanium Oxide, Magnesium Oxide, Sodium Oxide, Quartz, Cristobalite, and Beryllium. See also Sections 8 and 11 of this document. Coal Slag may be used as either a bottom surfacing and/or a top surfacing on certain granule surfaced non TG products.

Hydro-Tuff PB-50, and Hydro-Tuff CS100 products use polyester fiber and may also contain a filament glass fiber. Hydro-Tuff PB products use a combination of fiberglass mat and polyester fiber. Hydro-Tuff PB 25 prefixed products uses a fiberglass mat and does not use a polyester or filament glass fiber.

The titanium dioxide is inextricably bound in the adhesive matrix so the carcinogen classification does not apply.

SECTION 4 First - Aid Measures

General:	During installation, this product may release dust or fumes. Due to the large size of the particles, minimal exposure to airborne dust is expected. Primarily a nuisance dust. Asphalt and its fumes can irritate the skin, eyes, and upper respiratory tract. If dust or fumes are inhaled to excess (e.g. in a confined work space) irritation of the upper respiratory tract may occur. See Section 11 for more details.
Inhalation	If breathing difficulty is experienced, move to a fresh air place. Drink water to clear throat and blow nose to remove dust. If difficulty persists, “seek medical attention”.

Skin contact	Wash gently with soap and warm water to remove dust and fibers. For molten asphalt contact, cool with ice or water. Do not attempt to remove asphalt immediately. Cover with petroleum jelly (Vaseline). Remove the asphalt once it has softened. If irritation develops, use a delicate cream. If symptoms persist, in case of redness or blistering seek medical attention for burn treatment.
Eye contact	Do not rub or scratch eyes. Dust particles may cause the eye to be scratched. Bathe eye immediately with a large amount of water for at least 15 minutes. If irritation persists, seek medical attention immediately.
Ingestion	This product is not intended to be ingested. If ingested. It may cause temporary irritation to the digestive system. Rinse mouth with water to remove fibers, and drink plenty of water to help reduce the irritation.
Most important symptoms/effects, acute and delayed	Indication of immediate medical and special treatment needed Upper respiratory passages, skin and eyes are primary exposure routes. As with any dust, pre-existing upper respiratory and lung diseases or conditions that may be aggravated.
Physicians note:	Treat symptomatically.

SECTION 5 Fire - Fighting Measures

Suitable extinguishing media	Dry chemical, dry powder, CO2, foam, water fog or water spray.
Hazardous combustion products:	Carbon dioxide and carbon monoxide
Fire-fighting equipment/instruction:	No special procedures are expected to be necessary for this product. Normal firefighting procedures should be followed such as standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and inclosed spaces, SCBA.
Unusual fire and explosive hazards	N/A

SECTION 6 Accidental Release Measures

Personal precautions:	N/A
Environmental precautions	Pick up large pieces of material. Vacuum dust. If sweeping is necessary, use a dust suppressant such as water. Do not dry sweep dust accumulation. These procedures will help to minimize potential exposures.
Clean-Up Methods	This product as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency IEPA) under Resource Conversation the Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal. If you are unsure of the regulations, contact the local Public Health Department, or the local office of the EPA.

SECTION 7 Handling and Storage

Handling	Use protective equipment as described in Section 8 of this material safety data sheet when handling uncontained material. Avoid direct exposure to very high heat or flame.
Storage	Store standing upright on end. Material should be kept dry, and protected from the elements. Recommended storage temperature is between 55 ^{O}F to 95 ^{O}F (12 ^{O}C to 35 ^{O}C). Warehouse storage should be in accordance with package directions.

SECTION 8 Exposure Controls / Personal Protection

Read all product instructions before using. No ACGIH or OSHA Pel is assigned to this mixture.
Exposure limits for the component materials are shown below.
This product as supplied, is not believed to contain any hazardous material that exceeds exposure limits established by OSHA.

Components	ACGIH TLV	OSHA PEL	NIOSH IDLH
Asphalt (CAS 8-52-42-4)	TWA 0.5 mg/m^3 benzene soluble aerosol fume, inhalable fraction	-	Ceiling: 5 mg/m^3 fume 15 min
Calcium Carbonate (CAS 1317-65-3)	-	TWA 15 mg/m^3 total dust TWA 5 mg/m^3 respirable fraction (vacated) TWA 15 mg/m^3 total dust (vacated) TWA 5 mg/m^3 respirable fraction	TWA 10 mg/m^3 total dust TWA 5 mg/m^3 respirable dust
Crystalline silica (quartz) (CAS 14808-60-7)	TWA 0.025 mg/m^3 respirable fraction	(vacated) TWA: 0.1 mg/m^3 respirable dust (30)/(%Si02+2) mg/m^3 TWA total dust (250)/(%Si02+5) mg/m^3 TWA respirable (10)(%Si02+2) mg/m^3 TWA respirable	IDLH 50 mg/m^3 respirable dust TWA 0.05 mg/m^3 respirable dust
Continuous filament glass fibers (CAS 65997-17-3	1fiber/cm^3 TWA respirable fibers	-	5 mg/m^3 -TWA(inhalable fraction)
Titanium Dioxide (CAS 13463-67-7	10 mg/m^3 TWA	15 mg/m^3 TWA (total dust) 10 mg/m^3 TWA (total dust)	-

None of the components in this product are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Individual protection measures, such as personal protective equipment

Eye/face Protection	Wear safety glasses with side shields (or goggles) are recommended.
Hand protection	Leather or cotton gloves are recommended.
Skin protection:	Loose fitting, long-sleeved shirt and long pants, and cap should be worn to protect skin from irritation to dust. Construction grade work shoes are recommended.
Respiratory protection	Not required unless used with asphalt or coal tar mastics. In those cases, follow the specific precautions for the material being used.
Ventilation:	No special ventilation systems are required when using this product.
Thermal hazards:	n/a

SECTION 9 Physical and Chemical Properties

Physical state	Solid
Appearance	Various colors and surfaces. Thin black asphaltic roll roofing.
Color	Smooth material is black. Mineral material varies in colors
Odor	Asphaltic odor
pH	None Established
Flash point	>600.0 °F (> 315 °C)
Melting point/freezing point	250 °F (121 °C)
Freezing point:	None Established

Boiling point	None Established
Melting Point	250 ^{O}F (121 ^{O}C)
Evaporation rate	None Established
Flammability (solid, gas)	Not available
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	None Established
Flammability limit - upper (%)	None Established
Explosive limit - lower (%)	None Established
Explosive limit - upper (%)	None Established
Oxidizing Properties:	None Established
Vapor pressure	None Established
Vapor density	None Established
Solubility in Water	Insoluble
Solubility in other solvents	None Established
Partition coefficient (n-octanol/water)	None Established
Auto-ignition temperature	860 ^{O}F (460 ^{O}C)
Decomposition temperature	None Established
Kinematic Viscosity	None Established
Dynamic Viscosity	None Established
Softening Point	None Established
Molecular Weight:	None Established
VOC Content (%)	None Established
Density	None Established
Specific gravity	None Established

SECTION 10 Stability and Reactivity

Chemical stability	This product is a stable material. This product is not reactive.
Incompatible materials	This product will react with strong oxidizing agents, reducing agents, strong acids and alkalis.
Hazardous decomposition products	Decomposition from this material are those that would be expected from any organic (carbon-containing) material. These decomposition products may include oxides of carbon (carbon dioxide, carbon monoxide, carbon particles, and hydrocarbons) are derived from burning.
Hazardous Polymerization	Will not occur.

SECTION 11 Toxicological Information

Acute Toxicity	Dust from this product is an irritant and may cause irritation or scratchiness of the troat, and/or itching in the eyes and skin.
Information on likely routes of exposure Ingestion	
Product information:	Toxicological testing has not been conducted for this product overall. Available toxicological data for individual ingredients are summarized below.

Eye contact	May cause irritation to the eyes. Eye irritation may be treated by flushing eyes with large amounts of water. If irritation persists, seek medical attention. Contact with hot product is abnormal and a possible emergency circumstance because of its adhesive and temperature features., the molten asphalt contact with eyes may cause physical eye damage due to adhesive properties as well as thermal burns. Seek Medical attention immediately in case of eye contact with molten asphalt contact.
Skin contact	May cause irritation (itching) to the skin. Ski irritation may be treated by gently washing affected area with soap and warm water. Contact with molten asphalt can result in physical injury/damage and thermal burns. Seek medical attention immediately in case of molten asphalt contact.
Ingestion	This product is not intended to be ingested. If ingested, it may cause irritation of the digestive system.
Inhalation	May cause irritation of the upper respiratory tact. Acute exposure may irritate mucous membranes with tightness in chest, coughing, wheeziness, or congestion. Individuals affected should be moved to fresh air.

Component	Oral LD 50	Dermal LD50	Inhalation LC50
Asphalt (at Ambient Temperature)	>5000 mg/kg (Rat)	>2000 mg/kg (Rat)	-
Crystalline Silica (quartz	>500 mg/kg (Rat)	-	-
*Estimates for product may be based on additional component data not shown			

Information on toxicological effects

Symptoms:	No Information available for this product
Carcinogenicity	There is no data for this product as a whole
Carcinogenicity:	The table below indicates whether each agency (IARC, NTP, or OSHA) has listed any ingredient as a carcinogen

IARC Monographs, Overall Evaluation of Carcinogenicity

Component Name	ACGIH	IARC	NTP	OSHA (29 CFR 1910.1001-1050)
Asphalt (at Ambient Temperature((CAS 805242-4)	-	2B	-	-
Quartz (CAS 14808-60-7)	A2	1	Known	X
Continuous filament glass fibers (CAS 65997-17-3)	A4	3	-	-
Titanium Dioxide (CAS 13463-67-7)	A4	2B	-	-

LEGEND

ACGIH (American Conference of Governmental Industrial Hygienists)		IARC (International Agency for Research on Cancer)	
A1	Known Human Carcinogen	Group 1	Carcinogenic to Humans
A2	Suspected Human Carcinogen	Group 2A	Probably Carcinogenic to Humans
A3	Animal Carcinogen	Group 2B	Possibly Carcinogenic to Humans
A4	Not Classified as a Human Carcinogen	Group 3	Not Classifiable as a Human Carcinogen

NTP (National Toxicology Program)		OSHA (Occupational Safety and Health Administration of the US Department of Labor)	
Known	Known Carcinogen	X	Present
Reasonably Anticipated	Reasonably Anticipated to be a Human Carcinogen		

Component Information:	The statements are provided for information purposes: *The IARC Monograph (Vol. 103, 2013, Bitumen and Bitumen Emissions) defines Asphalt as Group 2B, Possible Carcinogen to Humans. This definition is based on studies of exposure to Asphalt fumes at elevated temperatures. The Monograph states that temperature plays an important role in determining the degree of exposure and also the carcinogenic potential of bitumen emissions. This same Monograph states that Asphalt is non-volatile at ambient temperature. There is no data presented in the Monograph to demonstrate that Asphalt at ambient temperature is considered a carcinogen. *Asphalt (CAS #88052-42-4 and oxidized asphalt 64742-93-4): The international Agency for Research on Cancer (IARC) has stated that studies of workers exposed to asphalt provide inadequate evidence of carcinogenicity. IARC had previously classified asphalt as a Group 3 substance. Animal studies in which high concentrations of asphalt fumes were breathed for extended periods of time did not indicate any cancer effects. Bronchitis and pneumonitis were observed. Two studies where condensed fractions of certain asphalt fume condensates collected for these studies were repeatedly applied to the skin of laboratory animals reported the induction of skin cancers. The asphalt fume condensates collected for these studies were subjected to extremely high temperatures (601 ^{O}F /31^{O}C) and were heated for seven to ten hours while being continually stirred. This is not typical of any asphalt application. Trace amounts of polynuclear aromatic hydrocarbons (PAHs) may be present in some asphalts and can be generated upon excessive heating, which result in thermal cracking of the asphalt compounds. Some of these PAHs have been identified as having potential carcinogenic and reproductive health effects. *No significant exposure to Crystalline Silica (Quartz) is thought to occur during the use of products in which Crystalline Silica (Quartz) is bound to other materials, such as in paints and coatings. As one reference, see California Office of Health Hazard Assessment at: http://www.oehha.org/prop65/CRBNR_notices/safe_use/sylicausd2.html *The IARC Monograph (Vol 93, 2010, Carbon Black, Titanium Dioxide, Talc) states: No significant exposure to primary particles of talc is thought to occur duing the use of products in which talc is bound to other materials." *The IARC Monograph (Vol 93, 2010 Carbon Black, Titanium Dioxide, Talc) states: " No significant exposure to primary particles of Titanium Dioxide is thought to occur during th use of products in which Titanium Dioxide is bound to other materials, such as in paints". *This product contains a small amount of polyaromatic hydrocarbons which have been shown to cause cancer and respiratory damage in laboratory animals. Some asphalts and some asphalt solutions have produced skin cancer in laboratory animals. No association has been established between industrial exposure and cancer. (IRAC*, PART 4, VOLUME 35). Due to size of the particles, minimal exposure to airborne dust is expected.
Reproductive toxicity:	Based on available data the classification criteria are not met.
Specific target organ toxicity - single exposure	n/a
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure by inhalation
Aspiration hazard	No classified
Chronic effects	Not expected to be hazardous by OSHA criteria
Further information:	Symptoms may be delayed
Numerical measures of toxicity	No Information available

SECTION 12 Ecological Information (non-mandatory)

Biodegradation:	Not Established
Chemical degradation	Not Established
Bioaccumulation	Not Established
Agility	Not Established
Ecotoxicity influence on:	
Organisms:	Not Established
Ecotoxicity in water	Not Established
Other toxicity	Not Established

SECTION 13 Disposal Consideration (non-mandatory)

This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal. If you are unsure of rthe regulations contact the local Public Health Department, or the local office of the EPA.

SECTION 14 Transport Information (non-mandatory)

Shipping Information:	This product is not classified as a hazardous material for transport.
DOT (Ground)	N/A
Hazard Class:	N/A
Dot Label:	N/A
Air:	N/A
Water:	N/A
Freight Classification:	Roofing composition or prepared roofing

SECTION 15 Regulatory Information (non-mandatory)

US Federal regulations	There is no regulation on this product as a whole
SARA Title III:	There is no regulation on this product as a whole
SARA 313:	There is no regulation on this product as a whole
State Regulations:	A: General Product Information - Other state regulations may apply. Check individual state requirements. B: Component Analysis - State - The following components appear on one of more of the following state hazardous substances lists:

U.S. State Regulations:

Component	CA	FL	MA	MN	NJ	PA
Asphalt (CAS 8052-42-4)	YES	NO	YES	YES	YES	YES
Calcium Carbonate (Limestone) (CAS 1317-65-3)	YES	NO	YES	YES	YES	YES
Quartz (CAS 14808-60-7)	YES	NO	YES	YES	YES	YES
Continuous filament glass fibers (CAS 65997-17-3)	NO	NO	NO	YES	NO	NO
Talc (CAS 14807-96-6)	YES	NO	YES	YES	YES	YES

U.S. EPA Label Information: EPA Pesticide Registration N/A

The following statements(s) are provided under the California Safe Drinking water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING: This product contains a chemical know to the State of California to cause cancer.
US. California Pooposition 65
US - California Proposition 65 - CRT: Carcinogenic substance Quartz (CAS 14808-60-7) Listed

TSCA Status This product and its components are listed on the TSCA 8(b) inventory.
None of the components listed in this product are listed on the TSCA Export Notification 12(b) list.

SECTION 16 Other Information, Including date of preparation or last revision

Issue date	05/26/2015
Revision date	07/24/17
Version #	02 - Reviewed

The information and recommendations provided in this Safety Data Sheet are presented in good faith and believed to be correct as of the date hereof. The manufacturer makes no representations as to the completeness or accuracy thereof. Information supplied upon the condition that the persons receiving said information will make their own determination as to its suitability for their particular purpose prior to use. In no event will the manufacturer be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. No representation or warranties, either expressed or implied. Including the merchantability or fitness for a particular purpose are made herein with information contained herein is deemed to be reliable, conservative and accurate. Hydro-Gard, LLC reserves the right to change the design, specification or any other features at any time, without notice, while otherwise maintaining regulatory compliance.

End of Safety Data Sheet