

Safety Data Sheet - SDS
commonly known as
Material Safety Data Sheet - MSDS

SECTION 1 PRODUCT IDENTIFICATION	
COMPANY NAME	Carbon Spider
ADDRESS	PO Box 493, Silverado, CA 92676, USA
PHONE NUMBER	714-649-0144
WEB SITE	www.CarbonSpider.NET
PRODUCT(S)	CS-500 Washout Tooling Plaster CS-500-HS Washout Tooling Plaster
GENERAL CATEGORY	Tooling Material: Washout Plaster
CHEMICAL FORMULA	Blend of <ul style="list-style-type: none"> • Gypsum: a soft sulfate mineral composed of calcium sulfate dihydrate, with the chemical formula $\text{CaSO}_4 \cdot 2(\text{H}_2\text{O})$ • Vermiculite: a hydrous phyllosilicate mineral, with the chemical formula $(\text{Mg}, \text{Fe}^{++}, \text{Al})_3(\text{Al}, \text{Si})_4\text{O}_{10}(\text{OH})_2 \cdot 4(\text{H}_2\text{O})$
COMMON NAMES OR SYNONYMS	Gypsum may be called Plaster of Paris
CAS Number	Not Applicable (Mixture – see Section 3)
SUITABILITY	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for his/her own particular use.

SECTION 2 HAZARD(S) IDENTIFICATION	
EMERGENCY OVERVIEW: Δ WARNING! This product is not expected to produce any unusual hazards during normal use. Exposure to high dust levels may irritate the skin, eyes, nose, throat, or upper respiratory tract.	
POTENTIAL HEALTH EFFECTS (See Section 11 for more information)	
ACUTE:	
General	When mixed with water, this material <u>hardens and becomes very hot</u> , sometimes quickly. DO NOT attempt to make a cast enclosing any part of the body using this material. Failure to follow these instructions can cause severe burns that may require surgical removal of affected tissue or amputation of limb.
Inhalation	Exposure to dust generated during the handling or use of the product may cause temporary irritation to eyes, skin, nose, throat, and upper respiratory tract. Persons subjected to large amounts of this dust will be forced to leave area because of nuisance conditions such as coughing, sneezing and nasal irritation. Labored breathing may occur after excessive inhalation. If respiratory symptoms persist, consult physician.

Eyes	Dust can cause temporary mechanical irritation of eyes. If burning, redness, itching, pain or other symptoms persist or develop, consult physician. <i>Direct eye contact may cause minor physical or mechanical irritation.</i>			
Skin	None known.			
Ingestion	Not for consumption. If accidentally ingested, consult a physician immediately.			
CHRONIC:				
Inhalation	Exposures to respirable crystalline silica are not expected during the normal use of this product; however, actual levels must be determined by workplace hygiene testing. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease (i.e., silicosis) and/or lung cancer. The development of silicosis may increase the risks of additional health effects. The risk of developing silicosis is dependent upon the exposure intensity and duration. <i>Long term inhalation of quartz or free silica containing dust may cause risk of silicosis, pneumoconiosis, dyspnea and decreased lung function.</i>			
Eyes	None known.			
Skin	Prolonged or repeated skin contact may cause dry skin.			
Ingestion	Not for consumption. If accidentally ingested, consult a physician immediately.			
TARGET ORGANS: Eyes, skin and respiratory system.				
PRIMARY ROUTES OF ENTRY: Inhalation, eyes and skin contact.				
CARCINOGENICITY CLASSIFICATION OF INGREDIENT(S): All substances listed are associated with the nature of the raw materials used in the manufacture of this product and are not independent components of the product formulation. All substances, if present, are at levels well below regulatory limits. See Section 11: Toxicology Information for detailed information.				
MATERIAL	IARC	NTP	ACGIH	CAL- 65
Crystalline Silica	1	1	A2	Listed
IARC - International Agency for Research on Cancer: 1- Carcinogenic to humans; 2A – Probably carcinogenic to humans; 2B – Possibly carcinogenic to humans; 3 - Not classifiable as a carcinogen; 4 – Probably not a carcinogen				
NTP – National Toxicology Program (Health and Human Services Dept., Public Health Service, NIH/NIEHS): 1- Known to be carcinogen; 2- Anticipated to be carcinogens				
ACGIH – American Conference of Governmental Industrial Hygienists: A1 – Confirmed human carcinogen; A2 – Suspected human carcinogen; A3 – Animal carcinogen; A4 - Not classifiable as a carcinogen; A5 – Not suspected as a human carcinogen				
CAL-65 – California Proposition 65 “Chemicals known to the State of California to Cause Cancer”				
Respirable crystalline silica: IARC: Group 1 carcinogen, NTP: Known human carcinogen. The weight percent of crystalline silica given represents total quartz and not the respirable fraction. The weight percent of respirable silica has not been measured in this product.				
POTENTIAL ENVIRONMENTAL EFFECTS: Toxicity studies performed with fish, aquatic invertebrates and aquatic plants showed no toxic effect. (See Section 12 for more information.)				

SECTION 3 COMPOSITION, INFORMATION ON INGREDIENTS			
Ingredient, Chemical & Common Name		Percent by Weight	CAS Number ¹
Gypsum: a soft sulfate mineral composed of calcium sulfate dihydrate, with the chemical formula $\text{CaSO}_4 \cdot 2(\text{H}_2\text{O})$		Proprietary ²	7778-18-9
Vermiculite (Refined and Exfoliated) <u>Common Name:</u> Vermiculite / Expandable Mica It is a hydrous phyllosilicate mineral, with the chemical formula $(\text{Mg}, \text{Fe}^{++}, \text{Al})_3(\text{Al}, \text{Si})_4\text{O}_{10}(\text{OH})_2 \cdot 4(\text{H}_2\text{O})$ Vermiculite is a natural material that consists of variable proportions of various minerals, including vermiculite and calcite. This vermiculite consists primarily of vermiculite with minor other natural minerals.		Proprietary ²	1318-00-9
Calcite, minor component of vermiculite.		Proprietary ²	13397-26-7
Physical / Chemical Characteristics			
Boiling Point	Not Applicable	Specific Gravity	Not Applicable
Volatiles (%)	Not Applicable	Vapor Density	Not Applicable
Bulk Density (lb/ft ³)	50 - 70	Vapor Pressure	Not Applicable
Odor Threshold	Unknown	Evaporation Rate	Not Applicable
pH Value (in water)	6 to 8	Appearance	White to off-white powder, with gold / brown flecks

¹ Chemical Abstracts Service - CAS Number lookup: <http://www.commonchemistry.org/>

² Percent by Weight is deemed Proprietary due to the exact percentage of composition being withheld as a trade secret. In addition, this SDS is used for a group of substantially similar mixtures.

SECTION 4 FIRST-AID MEASURES	
FIRST-AID PROCEDURES	
Inhalation	Remove to fresh air. Leave the area of exposure and remain away until coughing and other symptoms subside. Other measures are usually not necessary, however if conditions warrant, contact physician.
Eyes	In case of contact, flush thoroughly with water for 15 minutes to prevent mechanical irritation. Avoid rubbing eyes. If irritation persists, consult physician.
Skin	To prevent the drying effect of tooling plaster, wash with mild soap and water. A commercially available hand lotion may be used to treat dry skin areas. If skin has become cracked, take appropriate action to prevent infection and promote healing. If irritation persists, consult physician.
Ingestion	Tooling plaster hardens and, if ingested, may result in obstruction of the gut, especially the pyloric region. Drinking gelatin solutions or large volumes of water may delay setting. Seek medical attention if significant quantities have been ingested.
MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED: Pre-existing upper respiratory and lung diseases such as, but not limited to, bronchitis, emphysema and asthma. Pre-existing skin diseases such as, but not limited to, rashes and dermatitis.	
NOTES TO PHYSICIAN: Treatment should be directed at the control of symptoms and the clinical condition.	

SECTION 5 FIRE FIGHTING MEASURES			
General Fire Hazards	Will not burn.		
Extinguishing Media	Water or use extinguishing media appropriate for surrounding fire.		
Special Fire Fighting Procedures	Wear appropriate personal protective equipment. See Section 8.		
Unusual Fire/ Explosion Hazards	None known.		
Hazardous Combustion Products	<u>Gypsum:</u> Above 1450° Celsius (2642° Fahrenheit), decomposes to calcium oxide (CaO) and sulfur dioxide (SO ₂).		
Flash Point	Not Determined	Auto Ignition	Not Applicable
Method Used	Not Applicable	Flammability Classification	Not Applicable
Upper Flammable Limit (UFL)	Not Determined	Rate of Burning	Not Applicable
Lower Flammable Limit (LFL)	Not Determined	Melting Point	Vermiculite: 1315° Celsius (2400° Fahrenheit)

SECTION 6 ACCIDENTAL RELEASE MEASURES	
CONTAINMENT: No special precautions. Wear appropriate personal protective equipment. See Section 8.	
CLEAN-UP: Collect spillage by vacuum cleaning or other means whereby dust creation is minimized. Flushing with water is a good alternative. If dust levels should exceed the occupational exposure standard, then personal protective equipment is required.	
DISPOSAL: Follow all local, state, provincial and federal regulations. Never discharge large releases directly into sewers or surface waters. See Section 13.	

SECTION 7 HANDLING AND STORAGE	
HANDLING: Avoid dust contact with eyes and skin. Wear the appropriate eye and skin protection against dust (See Section 8). Minimize dust generation and accumulation. Avoid breathing dust. Wear the appropriate respiratory protection against dust in poorly ventilated areas and if TLV is exceeded (see Sections 2 and 8). Use good safety and industrial hygiene practices. Wash hands and face thoroughly before eating, drinking, or smoking.	
STORAGE: Store in a cool, dry, ventilated area away from sources of heat, moisture, and incompatibilities (see Section 10). As a dry powder, dew point conditions or other conditions causing presence of liquid / moisture will harden tooling plaster during storage.	

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION	
ENGINEERING CONTROLS: Provide ventilation sufficient to control airborne dust levels. If user operations generate airborne dust, use ventilation to keep dust concentrations below permissible exposure limits. Where general ventilation is inadequate, use process enclosures, local exhaust ventilation, or other engineering controls to control dust levels below permissible exposure limits.	
RESPIRATORY PROTECTION: Wear a NIOSH/MSHA-approved respirator equipped with particulate cartridges when dusty in poorly ventilated areas, and if Threshold Limit Value (TLV) is exceeded. A respiratory program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. If engineering controls are not possible, wear a properly fitted NIOSH/MSHA-approved particulate respirator.	
OTHER PERSONAL PROTECTIVE EQUIPMENT:	
Eye / Face	Wear eye protection, safety glasses or goggles, to avoid possible eye contact. Eyewash should be available.
Skin	Wear gloves and protective clothing to prevent repeated or prolonged skin contact.
General	Selection of Personal Protective Equipment will depend on environmental working conditions and operations. Other Protective Clothing: Normal work clothes.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES			
Appearance	White to off-white powder, with gold / brown flecks	Bulk Density	Gypsum: 50-70 lb/ft ³ (dry)
Odor	Low to no odor	Specific Gravity (H ² O = 1)	Gypsum: ~2.96
Odor Threshold	Not Determined	Solubility in water (g/100g)	Gypsum: 0.15 - 0.40 Vermiculite: Nil.
Physical State	Solid / Powder	Partition Coefficient	Not Determined
pH	Gypsum: ~7 Vermiculite: 7 - 9	Auto-ignition Temp	Not Determined
Melting Point	<u>Vermiculite</u> : 1315° Celsius (2400° Fahrenheit)	Decomposition Temp	<u>Gypsum</u> : 1450° Celsius (2642° Fahrenheit)
Freezing Point	Not Applicable	Viscosity	Not Applicable
Boiling Point	Not Applicable	Particle Size	Varies
Flash Point	Not Determined	Vapor Density (Air = 1)	Not Applicable
Evaporation Rate (BuAc = 1)	Not Applicable	Molecular Weight	Gypsum: ~ 145 g/mole
Upper Flammable Limit (UFL)	Not Determined	VOC Content	Zero g/L
Lower Flammable Limit (LFL)	Not Determined	Percent Volatile	Zero
Vapor Pressure (mm Hg)	Not Applicable		

SECTION 10 STABILITY AND REACTIVITY	
STABILITY	Stable.
CONDITIONS TO AVOID	Contact with acids, water, high humidity.
INCOMPATIBILITY	Acids. Exposure to water and acids must be supervised because the reactions are vigorous and produce large amounts of heat.
HAZARDOUS POLYMERIZATION	None known.
HAZARDOUS DECOMPOSITION	<u>Gypsum</u> : Above 1450° Celsius (2642° Fahrenheit), decomposes to calcium oxide (CaO) and sulfur dioxide (SO ₂). <u>Vermiculite</u> : No hazardous decomposition or by-products expected.

**SECTION 11
TOXICOLOGICAL INFORMATION**

ACUTE EFFECTS:Gypsum:

The acute oral toxicity study [OECD TG 420] of calcium sulfate dihydrate showed that this chemical did not cause any changes even at 2,000 mg/kg b.w. Therefore, the oral LD50 value was more than 2,000-mg/kg b.w. for female rats. Gypsum paste applied experimentally to the eyes of rabbits was not an irritant. Gypsum dust particulate has shown an irritant action on mucous membranes of the respiratory tract and eyes. The sulfate ion has caused gastro-intestinal disturbance in humans following large oral doses. Limited studies involving the repeated inhalation of an (unspecified) calcium sulfate failed to identify any particular target organs in monkeys, rats and hamsters. No evidence of mutagenicity was found in Ames bacterial tests.

Vermiculite:

Vermiculite has no determined acute toxic effects. Long term exposure to moderate or high concentrations of vermiculite dust may affect nose and respiratory tract and chest health. No toxicological effects are expected if respirable dust concentrations are maintained below the occupational exposure standards.

Eye contact may cause mechanical irritations if exposed to excessive amount of vermiculite.

Skin contact may aggravate existing dermatitis.

Inhalation from prolonged and continuous exposure may aggravate existing asthmatic or respiratory conditions.

CHRONIC EFFECTS / CARCINOGENICITY:Gypsum:

Testing of dust from gypsum or plaster of paris has not detected respirable crystalline silica.

Crystalline Silica: Exposures to respirable crystalline silica are not expected during the normal use of this product; however, actual levels must be determined by workplace hygiene testing. The weight percent of respirable crystalline silica may not have been measured in this product. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease (i.e., silicosis) and/or lung cancer. The development of silicosis may increase the risks of additional health effects. Smoking in combination with silica exposures increases the risk of cancer. The risk of developing silicosis is dependent upon the exposure intensity and duration.

In June, 1997, IARC classified crystalline silica (quartz and cristobalite) as a human carcinogen. In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs. IARC states that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).

Vermiculite:

Repeated skin or eye contact may generate irritations. No toxicological effects are expected if personal protective equipment is worn.

Prolonged inhalation of excessive levels of vermiculite dust may cause a simple pneumoconiotic condition, not normally associated with a decrement in lung function. In cases of long-term exposure to extremely high levels of dust, complicated pneumoconiosis with lung function impairment may occur.

This vermiculite is believed to contain less than 1% crystalline silica based on testing.

The International Agency for Research on Cancer (IARC) has classified crystalline silica as a possible carcinogen, which means there is limited evidence for human carcinogenicity of crystalline silica. For vermiculite products containing less than 1% total crystalline silica under standard conditions and assuming that regulatory protective measures are in place, the Maximum Exposure Limit (0.3 mg/m³ in a TWA of 8 hours) for respirable crystalline silica should not be exceeded.

**SECTION 12
ECOLOGICAL INFORMATION**

ENVIRONMENTAL TOXICITY: Gypsum has no known adverse effect on ecology. Toxicity studies performed with fish, aquatic invertebrates and aquatic plants showed no toxic effect.

Vermiculite has a very low impact on environment. Vermiculite is persistent and non-biodegradable but it is unlikely to have any long-term adverse effect on the environment.

Ecotoxicity Value	Not determined.
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**SECTION 13
DISPOSAL CONSIDERATIONS**

WASTE DISPOSAL METHOD: Dispose of material in accordance with federal, state, and local regulations. Never discharge directly into sewers or surface waters. Consult with environmental regulatory agencies for guidance on acceptable disposal practices.

Vermiculite and waste from residue can be disposed as non-toxic and inactive materials in approved landfill sites in accordance with local regulations.

Slurry may plug drains.

Empty bags will contain product residues. Contaminated packaging can be disposed in approved landfill sites in accordance with local regulations.

Do not allow empty packaging to be used for any purpose except to store and ship original product.

SECTION 14 TRANSPORT INFORMATION	
U.S. DOT INFORMATION: Not a hazardous material per DOT shipping requirements. Not classified or regulated.	
Shipping Name	Same as product name.
Hazard Class	Not classified.
UN/NA #	None. Not classified.
Packing Group	None.
Label(s) Required	Not applicable.
GGVSec/MDG-Code	Not classified.
ICAO/IATA-DGR	Not applicable.
RID/ADR	None.
ADNR	None.

SECTION 15 REGULATORY INFORMATION
UNITED STATES REGULATIONS: The Toxic Substances Control Act (TSCA) Chemical Substance Inventory contains all existing chemical substances manufactured, processed, or imported in the United States that do not qualify for an exemption or exclusion under TSCA. https://www.epa.gov/tsca-inventory The lists downloaded for "February 2017 TSCA Inventory" do not specifically describe gypsum or vermiculite, so therefore this product does not need an exemption or exclusion under TSCA.

SECTION 16 OTHER INFORMATION																													
The information contained in this Material Safety Data Sheet does not constitute an assessment of workplace risks.																													
Workers should be trained to handle powder products without generating airborne dust.																													
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<ul style="list-style-type: none"> <u>DUST MASK Must Be Worn To Avoid Inhaling This Product.</u> <u>Do Not Leave Mixed Plaster In Contact With Skin While Curing.</u> The exothermic process generates heat and may burn skin. 																													
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ACRONYMS	
ANSI	American National Standards Institute
ACGIH	American Conference of Governmental Industrial Hygienists
CAA	Clean Air Act
CAL-65	California Proposition 65
CAS	Chemical Abstracts Service (Registry Number), a division of the American Chemical Society
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CFR	Code of Federal Regulations
DOT	United States Department of Transportation
DSL	Canadian Domestic Substances List
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning & Community Right-to-know Act
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
MSDS	Material Safety Data Sheet
MSHA	Mine Safety and Health Administration
NDSL	Canadian Non-Domestic Substances List
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Health and Safety Administration
PEL	Permissible Exposure Limit
PPE	Personal Protection Equipment
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act of 1986
SDS	Safety Data Sheet
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
UN/NA#	United Nations/North America number
WHMIS	Workplace Hazardous Material Information System

END OF DOCUMENT
