



### SAFETY DATA SHEET

## SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product Identifier : **S-194 Patch, Underlayment, and Embossing Leveler**  
 Product Code : 70010563  
 Trade Name/Synonyms : S-194  
 Recommended Use : Portland cement based patch.  
 Uses Advised Against : No information available.  
**Supplier's name and address:**  
 Armstrong World Industries, Inc.  
 2500 Columbia Ave.  
 Lancaster, PA, USA 17603

Information Telephone No. : (800) 233-3823  
 Website Address : <http://www.floorexpert.com>  
 24 Hr Emergency Telephone # : **CHEM-TEL: 1-800255-3924 OR 1-813-248-0585 (call collect)**

## SECTION 2 – HAZARDS IDENTIFICATION

### GHS Classification per 29 CFR 1910.1200 (OSHA HCS 2012) and HPR (WHMIS 2015)

Skin corrosion/irritation, Category 1A  
 Serious eye damage/eye irritation, Category 1  
 Carcinogenicity, Category 1A  
 Specific target organ toxicity, single exposure; Respiratory tract irritation, Category 3  
 Specific target organ toxicity, repeated exposure, Category 1.

### GHS Pictograms



### Signal Word

Danger

### Hazard Statements

Causes severe skin burns and eye damage.  
 May cause cancer by inhalation.  
 May cause respiratory irritation.  
 Causes damage to lungs through prolonged or repeated inhalation.

### Precautionary Statements

Obtain special instructions before use. (See Section 7 for special instructions.)  
 Do not handle until all safety precautions have been read and understood. Do not breathe dust. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. Wash hands and exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection. Wash contaminated clothing before reuse. Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store locked up. Dispose of contents / container in accordance with federal, state, and local laws. Do not allow product to enter drains.

### Hazards Not Otherwise Classified

None



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**% With Unknown Acute Toxicity** : None of the ingredients listed in Section 3 have published values for acute toxicity for dermal exposure or inhalation. See Section 11.

### SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (by weight)
Calcium carbonate	1317-65-3	30.00 – 60.00
Portland cement	65997-15-1	10.00 – 30.00
Calcium aluminate	65997-16-2	10.00 – 30.00
Calcium sulfate	7778-18-9	5.00 – 10.00
Calcium hydroxide	1305-62-0	1.0 – 5.0
Crystalline silica, quartz*	14808-60-7	0.10 – 1.00

\*Note: Crystalline Silica (Quartz) is not intentionally added to this product, but is a naturally occurring component in limestone (Calcium Carbonate).

The exact percentages of the ingredients have been withheld by the manufacturer as trade secrets.

### SECTION 4 – FIRST AID MEASURES

- General** : Call a Poison Center or doctor if you feel unwell.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing difficulties persist, seek immediate medical attention/advice.
- Skin contact** : Wash with plenty of soap and water. IF SKIN irritation or rash occurs: Get medical advice/attention.
- Eye contact** : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.
- Ingestion** : Never give anything by mouth to an unconscious person. Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
- Notes for Physician** : Treat symptomatically.

**Signs and symptoms of short-term (acute) exposure**

- Inhalation* : Symptoms may include coughing and shortness of breath.
- Skin* : Symptoms may include redness and itching. Contact with wet material, or moist areas of skin, causes skin burns. Skin thickening, cracking, or fissuring may occur.
- Eyes* : Direct contact may strongly irritate or burn the eyes. Could cause blindness.
- Ingestion* : Symptoms such as gastric pain, nausea, vomiting, and diarrhea may occur.

**Effects of long-term (chronic) exposure**

- : Prolonged inhalation may cause adverse lung effects with symptoms including coughing and shortness of breath. Repeated or prolonged inhalation of fine dusts may cause severe scarring of the lungs, a disease called silicosis, and alveolar proteinosis (lower lung disease).

**Indication of need for immediate medical attention or special treatment**

- : Difficulty breathing persists after removing the person to fresh air.
- Any exposure to the eye which causes irritation.
- Ingestion.

### SECTION 5 – FIRE FIGHTING MEASURES

- Suitable extinguishing media** : Dry chemical, carbon dioxide and foam.
- Unsuitable extinguishing media** : Do not use water. Contact with water may cause hydration, and formation of caustic alkaline material.
- Hazardous combustion products** : Sulfur oxides; calcium oxide; vinyl acetate; acetic acid; Aldehydes; Carbon oxides.
- Special fire-fighting procedures/equipment**



- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. After fires have been extinguished, carefully clean all equipment and surfaces exposed to fumes.

**Environmental precautions** : Do not allow material to enter drains or contaminate ground water system.

**Fire hazards/conditions of flammability**

- : The product is not flammable under normal conditions of use.

**Flammability classification (OSHA 29 CFR 1910.1200, WHMIS 2015)**

- : Not flammable

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

**Personal precautions** : Restrict access to area until completion of clean-up. All persons dealing with clean-up should wear the appropriate chemically protective equipment.

**Protective equipment** : Refer to Section 8 on this Safety Data Sheet, EXPOSURE CONTROLS / PERSONAL PROTECTION, for information on recommended personal protective equipment.

**Emergency Procedures** : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).

US CERCLA Reportable quantity (RQ): None reported.

**Methods and materials for containment and cleaning up**

- : Ventilate area of release. Stop spill or leak at source if safely possible. Prevent spilled material from entering sewer lines or waterways. Using brooms and shovels, gather up spilled material and place in suitable container for later disposal (see Section 13). Clean up residual dust by mopping the area of the spill. Notify the appropriate authorities as required.

**Prohibited materials** : Avoid strong oxidizing agents

**Environmental precautions** : Do not allow product to enter drains or waterways. Do not allow material to contaminate ground water system.

**Reference to other sections** : See Section 14 for disposal information.

## SECTION 7 – HANDLING AND STORAGE

**Safe handling procedures** : Observe good hygiene standards. Use only with adequate ventilation. Do not eat, drink or smoke in the work area. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Avoid repeated or prolonged skin contact. Do not breathe dust from this product. Wear protective clothing to prevent skin contact. Promptly remove any clothing that becomes contaminated. Clean contaminated clothing before reuse. Keep container tightly closed.

**Storage requirements** : Store in a cool, dry, well-ventilated area. Store away from heat and open flame. Avoid storing in direct sunlight. Store in original container. Keep tightly closed when not in use. Do not reuse empty container without commercial cleaning or reconditioning.

**Incompatible materials** : See Section 10.

**Special packaging materials** : Always keep in containers made of the same materials as the supply container.

**Special instructions for use** : Airborne dust may contain crystalline silica, which is known to cause cancer by inhalation. Reduce airborne dust during mixing with exhaust ventilation. If exposure levels are in excess of any PEL, wear an appropriate particulate respirator (i.e. dust mask), rated N-95 or higher.

## SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION



**Permissible Exposure Limits** : No exposure limits have been established for the product itself. Below are exposure limits for the components in the product.

Ingredients	CAS #	ACGIH TLV		OSHA PEL	
		TWA	STEL	PEL	STEL
Calcium Carbonate	1317-65-3	TLV Withdrawn In 2007	N/Av	15 mg/m <sup>3</sup> (Total dust); 5 mg/m <sup>3</sup> (respirable)	N/Av
Portland Cement	65997-15-1	1 mg/m <sup>3</sup> (respirable, with no asbestos and < 1% crystalline silica)	N/Av	15 mg/m <sup>3</sup> (Total dust); 5 mg/m <sup>3</sup> (respirable)	N/Av
Calcium aluminate	65997-16-2	1 mg/m <sup>3</sup> (as Aluminum metal and insoluble compounds)	N/Av	N/Av	N/Av
Calcium sulfate	7778-18-9	10 mg/m <sup>3</sup> (inhalable)	N/Av	15 mg/m <sup>3</sup> (Total dust); 5 mg/m <sup>3</sup> (respirable)	N/Av
Calcium Hydroxide	1305-62-0	5 mg/m <sup>3</sup>	N/Av	15 mg/m <sup>3</sup> (Total dust); 5 mg/m <sup>3</sup> (respirable fraction)	N/Av
Crystalline Silica, Quartz**	14808-60-7	0.025 mg/m <sup>3</sup> (respirable fraction)	N/Av	0.1 mg/m <sup>3</sup> (respirable fraction) (final rule limit)	N/Av

**Engineering Controls** : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. Ventilation should effectively remove and prevent buildup of any vapor or mist generated from the handling of this product.

**Personal Protection Equipment**

- Eye / face protection** : Chemical goggles must be worn when using this product. Additionally, a face shield is recommended if splashing is possible.
- Skin protection** : Wear chemical resistant protective clothing and impervious gloves. Glove materials such as nitrile rubber or Viton (fluorocarbon rubber) are recommended. Consult with the glove manufacturer for the breakthrough times of any chemicals listed on this Safety Data Sheet.
- Body protection** : Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact.
- Respiratory protection** : If the work process generates excessive quantities of dust, or if exposure levels are in excess of any PEL, wear an appropriate particulate respirator (i.e. dust mask), rated N-95 or higher.

**Site safety equipment** : An eyewash station and safety shower should be made available in the immediate working area.

**General hygiene considerations** : Avoid contact with eyes, skin and clothing. Do not breathe vapors/dust. Do not eat, drink or smoke when using this product. Clean all equipment and clothing at end of each work shift.

**SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

- |  |  |
|--|--|
| <b>Physical state</b> : fine powder                | <b>Appearance</b> : Gray powder                      |
| <b>Odor</b> : Cement odor                          | <b>Odor threshold</b> : N/Av                         |
| <b>pH</b> : 12 – 13                                | <b>Specific gravity</b> : 2.7 – 3.1                  |
| <b>Boiling point</b> : N/Av                        | <b>Coefficient of water/oil distribution</b> : N/Av  |
| <b>Melting/Freezing point</b> : N/Av               | <b>Solubility in water</b> : < 55 g/L                |
| <b>Vapor pressure (mm Hg @ 20°C / 68°F)</b> : N/Av | <b>Evaporation rate (n-Butyl acetate = 1)</b> : N/Av |
| <b>Vapor density (Air = 1)</b> : N/Av              | <b>Volatiles (% by weight)</b> : N/Av                |



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<b>Volatile organic compounds (VOCs)</b>	: 0 g/L	<b>General information</b>	: N/Av
<b>Particle size</b>	: N/Av	<b>Flammability classification</b>	: Not flammable
<b>Flash point</b>	: Not applicable	<b>Lower flammable limit (% by vol)</b>	: Not applicable
<b>Flash point method</b>	: Not applicable	<b>Upper flammable limit (% by vol)</b>	: Not applicable
<b>Auto-ignition temperature</b>	: N/Av	<b>Oxidizing properties</b>	: None
<b>Flame projection length</b>	: Not applicable	<b>Flashback observed</b>	: Not applicable

**Explosion data: Sensitivity to mechanical impact / static discharge**  
: Not expected to be sensitive to mechanical impact or static discharge.

## SECTION 10 – REACTIVITY AND STABILITY INFORMATION

**Reactivity** : Reacts with water. Contact with water may cause hydration and formation of caustic calcium hydroxide.

**Stability** : Stable under the recommended storage and handling conditions prescribed.

**Hazardous reactions** : Hazardous polymerization does not occur. When reacted with water or when in contact with moist skin or eyes, this product becomes corrosive to skin and eyes.

**Conditions to avoid** : High temperatures.

**Materials to avoid and incompatibility** : Oxidizing agents.

**Hazardous decomposition products** : None known, refer to hazardous combustion products in Section 5.

## SECTION 11 – TOXICOLOGICAL INFORMATION

**Routes of exposure** : *Inhalation*: YES    *Skin Absorption*: NO    *Skin and Eyes*: Yes    *Ingestion*: YES

**Symptoms of exposure** : See Section 4.

**Calculated Acute Toxicity Estimates for the Product**

*Inhalation* : N/Av

*Oral* : > 3000 mg/kg

*Dermal* : > N/Av

**Toxicological data** : See below for individual ingredient acute toxicity data.

Ingredients	LD50		
	LC50 (4 hr) Inhalation, rat	Oral, rat	Dermal, rabbit
Calcium carbonate	N/Av	6450 mg/kg	N/Av
Portland cement	N/Av	N/Av	N/Av
Calcium aluminate	N/Av	N/Av	N/Av
Calcium sulfate	N/Av	> 3000 mg/kg	NAv
Calcium Hydroxide	N/Av	7340 mg/kg	N/Av
Crystalline Silica, Quartz	N/Av	N/Av	N/Av

**Skin corrosion or irritation** : In the presence of moisture, this product may be corrosive to skin.

**Serious eye damage / eye irritation** : Causes serious eye damage.

**Respiratory or skin sensitization** : Portland cement may cause an allergic skin reaction in hypersensitive individuals, possibly due to trace amounts of chromium.

**Germ cell mutagenicity** : None known.

**Carcinogenic status** : This product contains Crystalline silica. Crystalline silica (respirable size) is classified as carcinogenic by inhalation by IARC (Group 1), ACGIH (Group A2), NTP (Group 1) and OSHA (OSHA Select carcinogen).

**Reproductive toxicity** : None known.

**Specific Target Organ Toxicity, Single Exposure**



: May cause respiratory irritation.

**Specific Target Organ Toxicity, Repeated Exposure**

: Prolonged inhalation may cause adverse lung effects with symptoms including coughing, mucous production, and difficulty breathing. Repeated or prolonged inhalation of fine dusts may cause severe scarring of the lungs, a disease called silicosis, and alveolar proteinosis (lower lung disease).

**Aspiration hazard**

: None known.

**Additional information**

: N/Av

**SECTION 12 – ECOLOGICAL INFORMATION**

**Environmental effects**

: The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

**Ecotoxicity**

: No data available.

**Biodegradability**

: No data available.

**Bioaccumulative potential**

: No data available.

**Mobility in soil**

: No data available.

**PBT and vPvB assessment**

: No data available.

**Other adverse effects**

: No data available.

**SECTION 13 – DISPOSAL CONSIDERATION**

**Handling for disposal**

: Handle waste according to recommendations in Section 7.

**Methods of disposal**

: You must test your waste using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

**Packaging**

: Handle contaminated packaging in the same manner as the product.

**RCRA**

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

**SECTION 14 – TRANSPORTATION INFORMATION**

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	None	This product is not regulated according to Canadian TDG regulations.	None	None	None
TDG Additional Information	None				
49 CFR/DOT	None	This product is not regulated according to US DOT regulations.	None	None	None
49 CFR/DOT Additional Information	None				

**SECTION 15 – REGULATORY INFORMATION**

**Canadian Information:**

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR). This SDS contains all of the information required by the HPR.



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Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on either the Domestic Substances List (DSL) or the Non- Domestic Substances List (NDSL).

**US Federal Information:**

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): None reported.

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes:

- Immediate (Acute) health hazard
- Chronic Health Hazard.

Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical constituents above de minimus concentrations.

U.S. State Right To Know Laws

California Proposition 65: Warning! This product contains a chemical or chemicals known to the State of California to cause cancer and/or reproductive/developmental effects.

Other State Right to Know Laws:

Component	CAS No.	CA	MA	MN	NJ	PA	RI
Limestone	1317-65-3	No	Yes	Yes	Yes	Yes	Yes
Portland cement	65997-15-1	No	Yes	Yes	Yes	Yes	Yes
Calcium sulfate	7778-18-9	No	Yes	Yes	Yes	Yes	No
Calcium hydroxide	1305-62-0	Yes	Yes	Yes	Yes	Yes	Yes
Crystalline silica, quartz	14808-60-7	No	Yes	Yes	Yes	Yes	Yes

**SECTION 16 – OTHER INFORMATION**

HMIS Rating : \* - Chronic Hazard 0 - Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe  
 Health: \*3 Flammability 0 Physical Hazard: 0 PPE: Gloves, safety glasses

Legend : ACGIH: American Conference of Governmental Industrial Hygienists  
 CAS: Chemical Abstract Services  
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980  
 CFR: Code of Federal Regulations  
 DOT: Department of Transportation  
 DSL: Domestic Substances List  
 EPA: Environmental Protection Agency  
 GHS: Globally Harmonized System  
 HPR: Hazardous Products Regulations  
 IARC: International Agency for Research on Cancer  
 Inh: Inhalation  
 N/Av: Not Available  
 N/Ap: Not Applicable  
 NIOSH: National Institute of Occupational Safety and Health  
 NTP: National Toxicology Program  
 OSHA: Occupational Safety and Health Administration  
 PEL: Permissible exposure limit  
 RCRA: Resource Conservation and Recovery Act  
 SARA: Superfund Amendments and Reauthorization Act  
 STEL: Short Term Exposure Limit  
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations



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TLV: Threshold Limit Values  
TSCA: Toxic Substance Control Act  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

#### **Disclaimer of Liability**

The Information presented herein is supplied as a guide to those who handle or use this product and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive. The manner and conditions of use and handling may involve other and additional considerations. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.

No warranty of any kind is given or implied. Armstrong World Industries, Inc. will not be liable for any damages, losses, injuries or consequential damages which may result from the use or reliance on any information contained herein.

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