



**SECTION 1  
CHEMICAL PRODUCT AND IDENTIFICATION**

United States Gypsum Company  
550 West Adams Street  
Chicago, Illinois 60661-3637  
A Subsidiary of USG Corporation

Product Safety: 1 (800) 507-8899  
[www.usg.com](http://www.usg.com)  
Version Date: January 1, 2014  
Version: 6

**PRODUCT(S)** TUF-CAL™ Plaster

**CHEMICAL FAMILY / GENERAL CATEGORY** Industrial Products, Art and Statuary

**SYNONYMS** Formulated product containing Plaster of Paris (Calcium Sulfate Hemihydrate) (CaSO4•½H2O)

**SECTION 2  
HAZARD IDENTIFICATION**

**EMERGENCY OVERVIEW:  
ΔWARNING!**

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 :**

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.
Skin	None known.
Ingestion	None known.

**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.
Eyes	None known.
Skin	None known.
Ingestion	None known.

**TARGET ORGANS:** Eyes, skin and respiratory system.

**PRIMARY ROUTES OF ENTRY:** Inhalation, eyes and skin contact.



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**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

MATERIAL	WT%	CAS #
Plaster of Paris (CaSO <sub>4</sub> •½H <sub>2</sub> O)	>90	26499-65-0
Blend of Proprietary Ingredients	<5	Proprietary
Crystalline Silica	<5	14808-60-7 <sup>^</sup>

All ingredients of this product are included in the U.S. Environmental Protection Agency's Toxic Substances Control Act Chemical Substance Inventory and the Canadian Domestic Substances List (DSL).

<sup>^</sup>The weight percent for silica represents total quartz and not the respirable fraction.

### 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, do not rub or scratch your eyes. To prevent mechanical irritation, flush thoroughly with water for 15 minutes. If irritation persists, consult physician.
Skin	To prevent the drying effect of plaster of paris, 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	Plaster of paris 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.

**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**

<b>General Fire Hazards</b>	Not expected to burn.		
<b>Extinguishing Media</b>	Water or use extinguishing media appropriate for surrounding fire.		
<b>Special Fire Fighting Procedures</b>	Wear appropriate personal protective equipment. See section 8.		
<b>Unusual Fire/ Explosion Hazards</b>	None known		
<b>Hazardous Combustion Products</b>	Above 1450° C - decomposes to calcium oxide (CaO) and sulfur dioxide (SO <sub>2</sub> ).		
<b>Flash Point</b>	Not Determined	<b>Auto Ignition</b>	Not Applicable
<b>Method Used</b>	Not Applicable	<b>Flammability Classification</b>	Not Applicable
<b>Upper Flammable Limit (UFL)</b>	Not Determined		
<b>Lower Flammable Limit (LFL)</b>	Not Determined	<b>Rate of Burning</b>	Not Applicable

**SECTION 6  
ACCIDENTAL RELEASE MEASURES**

**CONTAINMENT:** No special precautions. Wear appropriate personal protective equipment. See section 8.

**CLEAN-UP:** Use normal clean up procedures. No special precautions.

**DISPOSAL:** Follow all local, state, provincial and federal regulations. Never discharge large releases directly into sewers or surface waters.

**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.

**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 will harden plaster of paris during storage.



**SECTION 8**  
**EXPOSURE CONTROLS/PERSONAL PROTECTION**

MATERIAL	WT%	TLV (mg/m <sup>3</sup> )	PEL (mg/m <sup>3</sup> )
Plaster of Paris (CaSO <sub>4</sub> •½H <sub>2</sub> O)	>90	10	15 (T) / 5 (R)
Blend of Proprietary Ingredients	<5	10	15 (T) / 5 (R)
Crystalline Silica	<5	0.025 (R)	0.1 (R)

(T)–Total; (R)–Respirable; (NE)–Not Established; (C)–Ceiling; (STEL)–Short-term exposure limit  
(F)–Fume; (Du)–Dust; (M)–Mist  
ppm–part per million; f/cc–fiber per cubic centimeter; mppcf– million particles per cubic foot

**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 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.
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.

**SECTION 9**  
**PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	White to off-white	Vapor Density (Air = 1)	Not Applicable
Odor	Low to no odor	Specific Gravity (H <sub>2</sub> O = 1)	~2.96 (Plaster of Paris)
Odor Threshold	Not Determined	Solubility in water (g/100g)	0.15 - 0.40 (Plaster of Paris)
Physical State	Solid/ Powder	Partition Coefficient	Not Determined
pH @ 25 ° C	~7	Auto-ignition Temp	Not Determined
Melting Point	Not Applicable	Decomposition Temp	2642°F/1450°C
Freezing Point	Not Applicable	Viscosity	Not Applicable
Boiling Point	Not Applicable	Particle Size	Varies
Flash Point	Not Determined	Bulk Density	55-70 lb/ft <sup>3</sup> (dry) / 881-1,121 kg/m <sup>3</sup> (dry)



Evaporation Rate (BuAc = 1)	Not Applicable	Molecular Weight	~ 145 g/mole (Plaster of Paris)
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  
CHEMICAL STABILITY AND REACTIVITY**

<b>STABILITY</b>	Stable.
<b>CONDITIONS TO AVOID</b>	Contact with acids, water, high humidity.
<b>INCOMPATIBILITY</b>	Acids. Exposure to water and acids must be supervised because the reactions are vigorous and produce large amounts of heat.
<b>HAZARDOUS POLYMERIZATION</b>	None known.
<b>HAZARDOUS DECOMPOSITION</b>	Above 1450° C - calcium oxide (CaO) and sulfur dioxide (SO <sub>2</sub> ).

**SECTION 11  
TOXICOLOGICAL INFORMATION**

**ACUTE EFFECTS:** 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.

**CHRONIC EFFECTS / CARCINOGENICITY:**

Plaster of Paris: Testing of dust from USG 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).



**SECTION 12  
ECOLOGICAL INFORMATION**

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

<b>Ecotoxicity value</b>	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. Slurry may plug drains. Trace amounts of residue can be flushed to a drain, using plenty of water.

**SECTION 14  
TRANSPORT INFORMATION**

**U.S. DOT INFORMATION:** Not a hazardous material per DOT shipping requirements. Not classified or regulated.

<b>Shipping Name</b>	Same as product name.
<b>Hazard Class</b>	Not classified.
<b>UN/NA #</b>	None. Not classified.
<b>Packing Group</b>	None.
<b>Label (s) Required</b>	Not applicable.
<b>GGVSec/MDG-Code</b>	Not classified.
<b>ICAO/IATA-DGR</b>	Not applicable.
<b>RID/ADR</b>	None.
<b>ADNR</b>	None.

**SECTION 15  
REGULATORY INFORMATION**

**UNITED STATES REGULATIONS**

All ingredients of this product are included in the U.S. Environmental Protection Agency's Toxic Substances Control Act Chemical Substance Inventory.

<b>MATERIAL</b>	<b>WT%</b>	<b>3 2</b>	<b>3 4</b>	<b>3 3</b>	<b>CERCLA</b>	<b>CAA Sec. 112</b>	<b>RCRA Code</b>
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Plaster of Paris (CaSO4•½H2O)	>90	NL	NL	NL	NL	NL	NL
Blend of Proprietary Ingredients	<5	NL	NL	NL	NL	NL	NL
Crystalline Silica	<5	NL	NL	NL	NL	NL	NL

Key: NL = Not Listed

SARA Title III Section 302 (EPCRA) Extremely Hazardous Substances: Threshold Planning Quantity (TPQ)

SARA Title III Section 304 (EPCRA) Extremely Hazardous Substances: Reportable Quantity (RQ)

SARA Title III Section 313 (EPCRA) Toxic Chemicals: X= Subject to reporting under section 313

CERCLA Hazardous Substances: Reportable Quantity (RQ)

CAA Section 112 (r) Regulated Chemicals for Accidental Release Prevention: Threshold Quantities(TQ)

RCRA Hazardous Waste: RCRA hazardous waste code

**CANADIAN REGULATIONS**

This product has been classified in accordance with the hazard criteria of Controlled Product regulations and the MSDS contains all the information required by the Controlled Products Regulations. All ingredients of this product are included in the Canadian Domestic Substances List (DSL).

MATERIAL	WT%	IDL Item #	WHMIS Classification
Plaster of Paris (CaSO4•½H2O)	>90	Not Listed	Not Listed
Blend of Proprietary Ingredients	<5	Not Listed	Not Listed
Crystalline Silica	<5	1406	D2A

IDL Item#: Canadian Hazardous Products Act – Ingredient Disclosure List Item #

WHMIS Classification: Workplace Hazardous Material Information System

**Risk and Safety Phrases defined by European Union Directive 67/548/EEC (Annex III and IV)**

R-Phrase(s): R36/37/38

S-Phrase(s): S51 S38 S39

### SECTION 16 OTHER INFORMATION

**Label Information****Δ WARNING!**

When mixed with water, this material hardens and becomes very hot 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. Dust can cause irritation to eyes, skin and respiratory tract. Wear eye, skin and respiratory protection as necessary per working conditions. If eye contact occurs flush with water for 15 minutes. Do not ingest. If ingested, call physician. Product safety information: 800-507-8899 or usg. com. Customer Service: 800 USG-4-YOU (800 874-4968). KEEP OUT OF REACH OF CHILDREN.




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INFORMATION FOR HANDLING AND IDENTIFICATION OF CHEMICAL HAZARDS																	
NFPA Ratings:			HMIS Ratings:		<table border="1"> <tr> <td>HEALTH</td> <td>*</td> <td>1</td> </tr> <tr> <td>FLAMMABILITY</td> <td></td> <td>0</td> </tr> <tr> <td>PHYSICAL HAZARD</td> <td></td> <td>1</td> </tr> <tr> <td>PERSONAL PROTECTION</td> <td></td> <td>E</td> </tr> </table>	HEALTH	*	1	FLAMMABILITY		0	PHYSICAL HAZARD		1	PERSONAL PROTECTION		E
HEALTH	*		1														
FLAMMABILITY			0														
PHYSICAL HAZARD			1														
PERSONAL PROTECTION		E															
Health:	1	Health:	1	0 = Minimal Hazard													
Fire:	0	Fire:	0	1 = Slight Hazard													
Reactivity:	0	Reactivity:	1	2 = Moderate Hazard													
					3 = Serious Hazard												
					4 = Severe Hazard												
E – Safety glasses, gloves and dust respirator; * - Contains silica																	
<b>Key/Legend</b>																	
ANSI	American National Standards Institute																
ACGIH	American Conference of Governmental Industrial Hygienists																
CAA	Clean Air Act																
CAS	Chemical Abstracts Service (Registry Number)																
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																
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																
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																
TLV	Threshold Limit Value																
TSCA	Toxic Substances Control Act																
UN/NA#	United Nations/North America number																
WHMIS	Workplace Hazardous Material Information System																
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<b>END</b>																	