MATERIAL SAFETY DATA SHEET
PV Laboratory Dental Plaster 7-9 Minute Set

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 Version Date: January 1, 2008 Version: 3

PRODUCT(S)	PV Laboratory Dental Plaster 7-9 Minute Set
CHEMICAL FAMILY / GENERAL CATEGORY	Industrial Products, Dental Plaster
SYNONYMS	Formulated product containing Plaster of Paris (Calcium Sulfate Hemihydrate) ($CaSO_4 \cdot \frac{1}{2}H_2O$)

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 irritate 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 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	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.

CARCINOGENICITY CLASSIFICATION OF INGREDIENT(S) All substances listed are associated with the nature of

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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: This product has no known adverse effect on ecology. (See Section 12 for more information.)

SECTION 3
COMPOSITION, INFORMATION ON INGREDIENTS

MATERIAL	WT%	CAS #
Plaster of Paris ($CaSO_4 \cdot \frac{1}{2}H_2O$)	>95	26499-65-0
Potassium Sulfate	<5	7778-80-5
Crystalline Silica	<1	14808-60-7

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).

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.

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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	Not expected to 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	Above 1450º C - decomposes to calcium oxide (CaO) and sulfur dioxide (SO2).

Flash Point	Not Determined	**Auto Ignition**	Not Applicable
Method Used	Not Applicable	**Flammability Classification**	Not Applicable
Upper Flammable Limit (UFL)	Not Determined		
Lower Flammable Limit (LFL)	Not Determined	**Rate of Burning**	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. Wear the appropriate eye 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.

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SECTION 8
EXPOSURE CONTROLS/PERSONAL PROTECTION

MATERIAL	WT%	TLV (mg/m^3)	PEL(mg/m^3)
Plaster of Paris ($CaSO_4 \cdot ½H_2O$)	>95	10	15(T)/5(R)
Potassium Sulfate	<5	(NE)	(NE)
Crystalline Silica	<1	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_2O = 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**	2642ºF/1450ºC
Freezing Point	Not Applicable	**Viscosity**	Not Applicable
Boiling Point	Not Applicable	**Particle Size**	Varies
Flash Point	Not Determined	**Bulk Density**	55-70 lb/ft3 (dry) / 881-1,121 kg/m3 (dry)
Evaporation Rate (BuAc = 1)	Not Applicable	**Molecular Weight**	~ 145 g/mole (Plaster of Paris)

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Upper Flammable Limit (UFL)	Not Determined	**VOC Content**	Zero
Lower Flammable Limit (LFL)	Not Determined	**Percent Volatile**	Zero
Vapor Pressure (mm Hg)	Not Applicable		

SECTION 10
CHEMICAL STABILITY AND REACTIVITY

STABILITY	Stable.
CONDITIONS TO AVOID	Contact with incompatibles (see below).
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	Above 1450º C - calcium oxide (CaO) and sulfur dioxide (SO2).

SECTION 11
TOXICOLOGICAL INFORMATION

ACUTE EFFECTS: 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.

Plaster of paris: Oral LD50 rat > 5000 mg/kg; Dermal LD50 – None Determined; Skin Irritation LD50 – None Determined; Eye Irritation LD50– None Determined

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. 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

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ENVIRONMENTAL TOXICITY: This product has no known adverse effect on ecology.

Ecotoxicity value	Not determined.

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.

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

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

MATERIAL	WT%	302	304	313	CERCLA	CAA Sec. 112	RCRA Code
Plaster of Paris ($CaSO_4 \cdot \frac{1}{2}H_2O$)	>95	NL	NL	NL	NL	NL	NL
Potassium Sulfate	<5	NL	NL	NL	NL	NL	NL
Crystalline Silica	<1	NL	NL	NL	NL	NL	NL

Key : NL = Not Listed

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

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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)	>95	Not Listed	Not Listed
Potassium Sulfate	<5	Not Listed	Not Listed
Crystalline Silica	<1	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 S2

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 may cause irritation to eyes, skin, nose, throat and upper respiratory tract. Avoid irritation by reducing exposure to dust. Use in a well-ventilated area or provide sufficient local ventilation. If dusty, wear a NIOSH/MSHA-approved dust respirator. Wear eye protection. If eye contact occurs, flush thoroughly with water for 15 minutes. If irritation persists, call physician. Wash with soap and water after use. Do not ingest. If ingested, call physician. Product safety information: (800) 507-8899 or www.usg.com.

KEEP OUT OF REACH OF CHILDREN.

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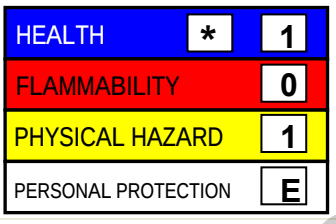
INFORMATION FOR HANDLING AND IDENTIFICATION OF CHEMICAL HAZARDS

NFPA Ratings:		HIMS Ratings:	
Health:	1	Health:	1
Fire:	0	Fire:	0
Reactivity:	0	Reactivity:	1



0 = Minimal Hazard
1 = Slight Hazard
2 = Moderate Hazard
3 = Serious Hazard
4 = Severe Hazard

E – Safety glasses, gloves and dust respirator

Key/Legend

TLV	Threshold Limit Value
PEL	Permissible Exposure Limit
CAS	Chemical Abstracts Service (Registry Number)
NIOSH	National Institute for Occupational Safety and Health
MSHA	Mine Safety and Health Administration
OSHA	Occupational Health and Safety Administration
ACGIH	American Conference of Governmental Industrial Hygienists
IARC	International Agency for Research on Cancer
DOT	United States Department of Transportation
EPA	United States Environmental Protection Agency
NFPA	National Fire Protection Association
HMIS	Hazardous Materials Identification System
PPE	Personal Protection Equipment
TSCA	Toxic Substances Control Act
DSL	Canadian Domestic Substances List
NDSL	Canadian Non-Domestic Substances List
SARA	Superfund Amendments and Reauthorization Act of 1986
CAA	Clean Air Act
EPCRA	Emergency Planning & Community Right-to-know Act
RCRA	Resource Conservation and Recovery Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
UN/NA#	United Nations/North America number
CFR	Code of Federal Regulations
WHMIS	Workplace Hazardous Material Information System

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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.

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END

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