

02/10/05 THU 14:08 FAX 8014796555

MADISON GROUP

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**MATERIAL SAFETY DATA SHEET**

02-14-05

33534-XXXX

\*Casting Kit\*

**Section 1  
PRODUCT AND COMPANY IDENTIFICATION**

Trade Name: MAKE-A-MOLD®  
Generic Name: Alginate Impression Material / Molding Compound  
Chemical Name: Alginate  
Manufacturer: The Madison Group  
Address: 6648 So. Hwy. 89  
City: Ogden State: UT Zip: 84405 Telephone: 801-479-6556  
Emergency: 801-391-9196

**Section 2  
COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient Name:  
Diatomaceous Earth, Calcium Sulfate, Tetra sodium Pyrophosphate, Magnesium Oxide, Potassium Alginate

**Section 3  
HAZARDS IDENTIFICATION**

Eye irritation: None with normal use  
Skin sensitization: none with normal use  
Skin irritation: none with normal use

**Section 4  
FIRST AID MEASURES**

Inhalation: Remove to fresh air. If breathing is difficult, give oxygen and get medical attention.  
Ingestion: Drink a lot of water. If nausea persists see a physician.  
Eye: Flush with water  
Skin: Wash with soap and water

**Section 5  
FIRE FIGHTING MEASURES**

Fire and explosion hazards: none  
Flash point: none  
Special fire fighting procedures: treat as a class A fire

**Section 6  
ACCIDENTAL RELEASE MEASURES**

None

**Section 7  
HANDLING AND STORAGE**

Storage: Indoor. Keep in a cool dry place.

**Section 8  
EXPOSURE CONTROLS / PERSONAL PROTECTION**

Avoid dust formation. Use a regular dust mask if exposed for many hours.  
Protective gloves: not necessary  
Eye Protection: use regular goggles if necessary  
Ventilation type: not necessary

**Section 9  
PHYSICAL AND CHEMICAL PROPERTIES**

Appearance: White fine powder  
Odor: none

**Section 10  
STABILITY AND REACTIVITY**

Stability: Stable  
Polymerization: Will not occur

**Section 11  
TOXICOLOGICAL INFORMATION**

None

**Section 12  
ECOLOGICAL INFORMATION**

None

**Section 13  
DISPOSAL CONSIDERATION**

Sweep or vacuum to avoid a slippery situations  
handle like any dust or dirt and dispose in regular garbage disposal

**Section 14  
TRANSPORT REGULATIONS**

IA

**Section 15  
REGULATORY INFORMATION**

IA

**Section 16  
OTHER INFORMATION**

IA Item Numbers: 33534-1009, 33534-2009

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**MATERIAL SAFETY DATA SHEET**  
**USG HYDROCAL® White Gypsum Cement**

MSDS # 52-100-106

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United States Gypsum Company  
 125 South Franklin Street  
 Chicago, Illinois 60606-4678  
 A Subsidiary of USG Corporation

Product Safety: 1 (800) 507-8899  
[www.usg.com](http://www.usg.com)  
 Version Date: October 8, 2003  
 Version: 4

**SECTION 1**  
**CHEMICAL PRODUCT AND IDENTIFICATION**

**PRODUCT(S):** USG HYDROCAL® White Gypsum Cement  
**CHEMICAL FAMILY:** Calcium Sulfate Hemihydrate (CaSO<sub>4</sub>•½H<sub>2</sub>O)

**SECTION 2**  
**COMPOSITION, INFORMATION ON INGREDIENTS**

MATERIAL	WT%	TLV (mg/m <sup>3</sup> )	PEL (mg/m <sup>3</sup> )	CAS NUMBER
Plaster of Paris (CaSO <sub>4</sub> •½H <sub>2</sub> O)	100	10	15 (T) / 5 (R)	26499-65-0
Crystalline Silica	<1	0.05 (R)	0.1 (R)	14808-60-7

(T) – Total (R) – Respirable (NE) – Not Established

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



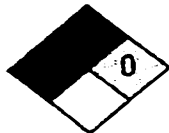
Food and Drug Administration [CFR Title 21, v.3, sec 184.1230] – Calcium Sulfate is Generally Recognized as Safe (GRAS).

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

**SECTION 3**  
**HAZARD IDENTIFICATION**

**INFORMATION FOR HANDLING AND IDENTIFICATION OF CHEMICAL HAZARDS**

NFPA Ratings:  
 Health: 0  
 Fire: 0  
 Reactivity: 0



HMS Ratings:  
 Health: 0  
 Fire: 0  
 Reactivity: 1

	*	0
		0
PHYSICAL HAZARD		1
PERSONAL PROTECTION		E

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

Personal Protection: Use eye and skin protection. Use NIOSH/MSHA-approved respiratory protection when necessary.

\*Respirable crystalline silica can cause lung disease and/or cancer. E – Safety glasses, gloves and dust respirator

**EMERGENCY OVERVIEW**

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. 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.

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### SECTION 3 HAZARD IDENTIFICATION (continued)

#### POTENTIAL HEALTH EFFECTS

##### ACUTE:

**Eyes:** Direct contact can cause mechanical irritation of eyes. If burning, redness, itching, pain or other symptoms persist or develop, consult physician.

**Skin:** 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. Direct, prolonged or repeated contact with the skin may cause irritation. Rinse with water until skin is free of material to avoid irritation, then wash skin thoroughly with mild soap and water. Repeated exposure may dry skin.

**Inhalation:** Dust exposures generated during the handling 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.

**Ingestion:** Unlikely to occur, but if ingested may cause gastric disturbances if swallowed. Plaster of paris is non-toxic, however, ingestion of a sufficient quantity could lead to mechanical obstruction of the gut, especially the pyloric region. See First Aid Measures - Ingestion (Section 4).

##### CHRONIC:

**Inhalation:** Testing of dust from USG plaster of paris has not detected respirable 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 has not 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.

**Skin:** Repeated contact may dry the skin, causing cracking or dermatitis. Sensitive individuals may develop an allergic dermatitis.

**Eyes:** No known effects.

**Ingestion:** No known effects.

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

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

### SECTION 4 FIRST AID MEASURES

#### FIRST AID PROCEDURES:

**Eyes:** Flush thoroughly with water for 15 minutes. If irritation persists, consult physician.

**Skin:** 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.

**Inhalation:** Remove to fresh air. Leave the area of dust exposure and remain away until coughing and other symptoms subside. Other measures are usually not necessary, however if conditions warrant, contact physician.

**Ingestion:** This product is not intended to be ingested or eaten. If gastric disturbance occurs, call physician. This product contains gypsum plaster. 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.

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### 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 and Explosion Hazards:</b>	None		
<b>Hazardous Combustion Products:</b>	Above 1450° C - decomposes to calcium oxide (CaO) and sulfur dioxide (SO <sub>2</sub> ).		
<b>Flash Point:</b>	None Known	<b>Auto Ignition:</b>	Not Applicable
<b>Method Used:</b>	Not Applicable	<b>Flammability Classification:</b>	Not Applicable, may act as a fire retardant
<b>Upper Flammable Limit (UFL):</b>	Not Applicable	<b>Rate of Burning:</b>	Not Applicable
<b>Lower Flammable Limit (LFL):</b>	Not Applicable		

### SECTION 6 ACCIDENTAL RELEASE MEASURES

**CONTAINMENT:**

No special precautions. Wear appropriate personal protection (See Section 8).

**CLEAN-UP:**

Use normal clean up procedures. If dry, shovel or sweep up material from spillage and place collected material into a container for recovery or waste disposal. Avoid dust generation. Avoid inhalation of dust and contact with eyes and skin. Wear appropriate protective equipment. Maintain proper ventilation. If vacuum is used to collect dust, use an industrial vacuum cleaner with a high efficiency air filter. If sweeping is necessary, use dust suppressant. Do not use compressed air for clean up. These procedures will help minimize potential exposures. If washed down, may plug drains. If already mixed with water, scrape up and place in container.

**DISPOSAL:**

Follow all local, state, provincial and federal regulations. Never discharge large releases directly into sewers or surface waters. Slurry may plug drains. Trace amounts of residue can be flushed to a drain, using plenty of water.

### SECTION 7 HANDLING AND STORAGE

**HANDLING:**

Avoid dust contact with eyes. Wear the appropriate eye protection against dust (See Section 8).  
Avoid breathing dust. Wear the appropriate respiratory protection against dust in poorly ventilated areas and if TLV is exceeded (see Sections 2 and 8).  
Minimize dust generation and accumulation. 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).  
Dew point conditions or other conditions causing presence of liquid will harden this material during storage.  
Protect product bags or containers from physical damage and weather.  
Keep bags or other containers tightly closed to prevent moisture contact.

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### SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

#### ENGINEERING CONTROLS:

Provide ventilation sufficient to control airborne dust levels especially respirable crystalline silica.

If user operations generate airborne dust, use ventilation to keep dust concentrations below permissible exposure limits (See Section 2).

Where general ventilation is inadequate, use process enclosures, local exhaust ventilation, or other engineering controls to control dust levels below permissible exposure limits (see Section 2). If engineering controls are not possible, wear a properly fitted NIOSH/MSHA-approved particulate respirator.

#### 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.

#### OTHER PERSONAL PROTECTIVE EQUIPMENT:

**Eye/Face:** Wear eye protection (safety glasses or goggles) to avoid possible eye irritation.

**Skin:** Wear gloves and protective clothing to prevent repeated or prolonged skin contact. Barrier creams or skin lotion may be applied to face, neck, wrist and hands when skin is exposed to help prevent drying of skin.

**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	Viscosity	Not Applicable
Physical State	Solid (powder)	Solubility (H <sub>2</sub> O)	0.67-0.88 g/100 g solution
Odor	Low to no odor	Boiling Point	Not Applicable
pH @ 25 ° C	~7	Melting Point	Not Applicable
Particle Size	Varies	Softening Point	Not Applicable
Molecular Weight	~145 g/mole	Freezing Point	Not Applicable
Bulk Density	~ 55-70 lb/ft <sup>3</sup>	Vapor Density (Air = 1)	Not Applicable
Specific Gravity (H <sub>2</sub> O = 1)	2.5	Vapor Pressure (mm Hg)	Not Applicable
Percent Volatile	Zero	Evaporation Rate (BuAc = 1)	Not Applicable
VOC Content	Zero		

### SECTION 10 CHEMICAL STABILITY AND REACTIVITY

#### STABILITY:

Stable in dry environments. Dew point conditions or other conditions causing presence of liquid will harden this material.

#### CONDITIONS TO AVOID:

Contact with acids, water, high humidity, and incompatibles.

#### INCOMPATIBILITY:

Acids. Exposure to water and acids must be supervised because the reactions are vigorous and produce large amounts of heat.

#### HAZARDOUS POLYMERIZATION:

Will not occur.

#### HAZARDOUS DECOMPOSITION:

Above 1450° C - calcium oxide (CaO) and sulfur dioxide SO<sub>2</sub>

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**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

LD<sub>50</sub>: Not Available for product.

LC<sub>50</sub>: Not Available for product.

**CHRONIC EFFECTS / CARCINOGENICITY:**

**Crystalline silica:** Testing of dust from USG plaster of paris has not detected respirable 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 has not 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**

**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.

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**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 (CaSO4•½H2O)	100	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)  
 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



Food and Drug Administration [CFR Title 21, v.3, sec 184.1230] – Calcium Sulfate is Generally Recognized as Safe (GRAS).

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### SECTION 15 REGULATORY INFORMATION (continued)

#### CANADIAN REGULATIONS

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

MATERIAL	WT%	IDL Item #	WHMIS Classification:
Plaster of Paris (CaSO <sub>4</sub> ·1/2H <sub>2</sub> O)	100	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

**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
Respirable Crystalline Silica	1	1	A2	Listed

See Section 11 : Toxicology Information for detailed information

IARC – International Agency for Research on Cancer (World Health Organization)

- 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”

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### SECTION 16 OTHER INFORMATION

#### Label Information:

#### ⚠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 created from product may cause eye, skin, nose, throat or upper respiratory irritation. Avoid inhalation of dust and eye contact. Use in a well-ventilated area. Wear a NIOSH/MSHA-approved respirator when dusty. Use proper ventilation to reduce dust exposure. Wear eye protection. If eye contact occurs, flush thoroughly with water for 15 minutes. If irritation persists, call physician. Wash thoroughly with soap and water after use. Do not ingest. If ingested, call physician.

Product safety information: (800) 507-8899 or [www.usg.com](http://www.usg.com)

**KEEP OUT OF REACH OF CHILDREN.**

#### 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

#### Prepared by:

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Chicago, Illinois 60606

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