MATERIAL SAFETY DATA SHEET
DUROCK® Cement Board

United States Gypsum Company
125 South Franklin Street
Chicago, Illinois 60680-4124
A Subsidiary of USG Corporation

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

SECTION 1
CHEMICAL PRODUCT AND IDENTIFICATION

PRODUCT: DUROCK® Cement Board
CHEMICAL FAMILY: Cement Board

SECTION 2
COMPOSITION, INFORMATION ON INGREDIENTS

MATERIAL	WT%	TLV (mg/m^3)	PEL(mg/m^3)	CAS NUMBER
Expanded Clay Aggregate	<40	(NE)	(NE)	68334-37-2
Or Expanded Shale		(NE)	(NE)	68476-95-9
Portland Cement	<25	10	15(T)/5(R)	65997-15-1
Fly Ash	<25	10	15(T)/5(R)	68131-74-8
High Alumina Cement	<5	10(T)	10(T)/5(R)	65997-16-2
Fiber Glass Scrim	<2	1 f/cc	15(T)/5(R)	65997-17-3
Soda Ash	<2	10(T)	15(T)/5(R)	479-19-8
Gypsum (CaSO4•2H2O)	<1	10	15(T)/5(R)	13397-24-5
Cellulose	<1	10	15(T)/5(R)	9004-34-6
Crystalline Silica	<5	0.05(R)	0.1(R)	14808-60-7

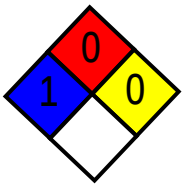
(T) – Total (R) – Respirable (NE) – Not Established mmpfc - million particles per cubic foot of air
Respirable crystalline silica: IARC: Group 1 carcinogen, NTP: Known human carcinogen. The weight percent for silica represents total quartz and not the respirable fraction.

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).

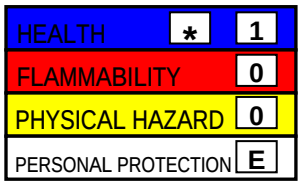
SECTION 3
HAZARD IDENTIFICATION

INFORMATION FOR HANDLING AND IDENTIFICATION OF CHEMICAL HAZARDS

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



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



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: Portland cement is a nuisance dust. However, portland cement is strongly alkaline and can cause severe injury. If user operations generate dust, contact with eyes or skin can cause irritation and possible irreversible tissue damage, corrosion damage, chemical burning and corneal damage. Wear eye and skin protection. Particulate will also cause mechanical irritation. Inhalation of dust can cause severe upper respiratory irritation. If user operations generate dust, contact lenses should not be worn.

SECTION 3 HAZARD IDENTIFICATION (continued)

POTENTIAL HEALTH EFFECTS

ACUTE:

Eyes: Airborne dust or direct contact can irritate or burn eyes. The extent of damage depends on duration of contact. Rapid response is very important to prevent significant damage to the eye (See Section 4, First Aid Measures). Portland cement can cause burns and cornea damage that may result in permanent damage with risk of blindness. If user operations generate dust, contact lenses should not be worn.

Skin: Contact with wet portland cement can cause severe irritation, redness, rash, and/or chemical burns, including third degree burns. Burns may occur 12 or 48 hours after exposure. Burns may occur without obvious pain at the time of exposure.

Exposure to dry portland cement may cause drying of the skin with consequent mild irritation or more significant effects attributable to aggravation of other conditions. Dry portland cement contacting wet skin or exposure to moist or wet portland cement may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (caustic) chemical burns.

Discomfort or pain cannot be relied upon to alert a person to a hazardous skin exposure. Consequently, the only effective means of avoiding skin injury or illness involves minimizing skin contact, particularly contact with wet cement. Exposed individuals may not feel discomfort until hours after the exposure has ended and significant injury has occurred.

Some individuals may exhibit an allergic response upon exposure to portland cement, possibly due to trace amounts of chromium. The response may manifest in different forms ranging from a mild rash to severe skin ulcers. Individuals already sensitized may react to the first contact with the product. Other individuals may experience a response after years of contact with portland cement products..

Inhalation: Inhalation of portland cement dust can irritate or burn the nose, throat, and mucous membrane of the upper respiratory tract. Signs of excessive exposure to this dust include shortness of breath and reduced pulmonary function. If respiratory symptoms persist, consult physician. Avoid dust exposures generated during when cutting dried product.

Ingestion: Portland cement can cause chemical burns to the mouth, throat, esophagus and stomach. Can cause a burning sensation in mouth and stomach. Pain and nausea can occur if a sufficient amount is ingested. In severe cases gastrointestinal bleeding or perforation of the esophageal or stomach lining may develop. The effects due to ingestion can be delayed and occur days later.

CHRONIC:

Eyes: None known.

Skin: None known.

Ingestion: No known effects.

Inhalation: Panels do not release respirable dust in their installed state and therefore do not present any known health hazards when installed and properly maintained.

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.

Bronchitis and emphysema may occur from prolonged portland cement dust inhalation.

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: In case of contact, do not rub or scratch your eyes. Immediately flush thoroughly with lots of water including flushing under upper and lower eyelids for at least 15 minutes. Get medical attention. An eye examination should be performed. It may take 48 to 72 hours after the exposure to adequately assess extent of damage..

Skin: Flush exposed skin with copious amounts of water for at least 15 minutes depending on concentration, amount and duration of exposure. Wash with mild soap and water. Immediately remove all contaminated clothing, including footwear. Launder clothing before reuse. If irritation or pain persists get medical attention immediately. A commercially available hand lotion may be used to treat dry skin areas. If skin is cracked, take appropriate action to prevent infection and promote healing. If irritation persists, consult physician. Skin irritation may occur hours or days after the time of portland cement exposure. The main types of skin reactions seen are dermatitis of the hands, forearms, and feet seborrheic eczema, stasis dermatitis, and, occasionally exfoliative dermatitis.

Inhalation: Remove to fresh air. Leave the area of dust exposure and remain away until coughing and other symptoms subside. If conditions warrant, contact physician.

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

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. Some individuals may exhibit an allergic response to portland cement, possibly due to trace amounts of chromium. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers. Sensitized individuals may react immediately upon contact and others may first experience this effect after years of contact with portland cement products.

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:	None known

Flash Point:	None Known	**Auto Ignition:**	Not Applicable
Method Used:	Not Applicable	**Flammability Classification:**	Not Applicable
Upper Flammable Limit (UFL):	Not Applicable		
Lower Flammable Limit (LFL):	Not Applicable	**Rate of Burning:**	Not Applicable

SECTION 6
ACCIDENTAL RELEASE MEASURES

CONTAINMENT:

No special precautions.

CLEAN-UP:

No special precautions. Collect material from spillage place in a waste container for disposal.

DISPOSAL:

Follow all local, state, provincial and federal regulations.

SECTION 7
HANDLING AND STORAGE

HANDLING:

When cutting or installing board, minimize the generation and accumulation of dust. 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).

Cement panels are very heavy awkward loads posing the risk of severe back injury. Use proper lifting techniques.

If user operations generate dust, contact lenses should not be worn.

STORAGE:

Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities (see Section 10).

Protect product from physical damage. Protect from weather and prevent exposure to sustained moisture.

SECTION 8
EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

Good general ventilation should be sufficient to control airborne dust levels. 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 safety glasses with side shields or goggles for eye protection to avoid irritation and severe chemical burns of the eye. If user operations generate dust, contact lenses should not be worn.

Skin: Wear gloves, long-sleeved shirts and pants to prevent repeated or prolonged skin contact. Barrier creams may be applied to face, neck, wrist and hands when skin is exposed to help prevent drying of skin. Do not rely on barrier creams for the only skin protection or use in place of gloves.

General: Selection of Personal Protective Equipment will depend on environmental working conditions and operations.

SECTION 9
PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Gray	**Viscosity**	Not Applicable
Physical State	Solid (board)	**Solubility (H2O)**	Not Applicable
Odor	Low to no odor	**Boiling Point**	Not Applicable
pH @ 25 ° C	~12	**Melting Point**	Not Applicable
Particle Size	Varies	**Softening Point**	Not Applicable
Molecular Weight	Mixture	**Freezing Point**	Not Applicable
Bulk Density	~ 2-3 lb/ft^2	**Vapor Density (Air = 1)**	Not Applicable
Specific Gravity (H_20 = 1)	1.2	**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.
CONDITIONS TO AVOID: Contact with incompatibles.
INCOMPATIBILITY: None known.
HAZARDOUS POLYMERIZATION: Will not occur.
HAZARDOUS DECOMPOSITION: None known.

SECTION 11
TOXICOLOGICAL INFORMATION

ACUTE EFFECTS:
Direct contact may cause eye, skin and/or respiratory irritation.
LD_{50}: Not Available for product. LC_{50}: Not Available for product.

CHRONIC EFFECTS / CARCINOGENICITY:
Crystalline silica: Panels do not release respirable dust in their installed state and therefore do not present any known health hazards when installed and properly maintained.
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.
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).
Portland cement: NIOSH conducted a portland cement worker study, “The Mortality of U.S. Portland Cement and Quarry Workers”, March 1985, which found “There is no excess mortality from all causes of death, lung cancer, non-malignant respiratory disease, or ischemic heart disease” among the workers studied.

SECTION 12
ECOLOGICAL INFORMATION

ENVIRONMENTAL TOXICITY: Portland cement is expected to be toxic to fish due to its high alkalinity (pH > 12). Discharge of large quantities directly into waterways would be expected to cause significant fish kills.
Ecotoxicity value: Not determined.

SECTION 13
DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:
Dispose of material in accordance with Federal, State, Provincial, and Local regulations. Consult with environmental regulatory agencies for guidance on acceptable disposal practices.

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
Expanded Clay Aggregate	<40	NL	NL	NL	NL	NL	NL
Or Expanded Shale		NL	NL	NL	NL	NL	NL
Portland Cement	<25	NL	NL	NL	NL	NL	NL
Fly Ash	<25	NL	NL	NL	NL	NL	NL
High Alumina Cement	<5	NL	NL	NL	NL	NL	NL
Fiber Glass Scrim	<2	NL	NL	NL	NL	NL	NL
Soda Ash	<2	NL	NL	NL	NL	NL	NL
Gypsum (CaSO4•2H2O)	<1	NL	NL	NL	NL	NL	NL
Cellulose	<1	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 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).

SECTION 15 REGULATORY INFORMATION (continued)

CANADIAN REGULATIONS (continued)

MATERIAL	WT%	IDL Item #	WHMIS Classification:
Expanded Clay Aggregate	<40	Not Listed	Not Listed
Or Expanded Shale		Not Listed	Not Listed
Portland Cement	<25	Not Listed	E
Fly Ash	<25	Not Listed	Not Listed
High Alumina Cement	<5	Not Listed	Not Listed
Fiber Glass Scrim	<2	Not Listed	Not Listed
Soda Ash	<2	Not Listed	Not Listed
Gypsum (CaSO4•2H2O)	<1	Not Listed	Not Listed
Cellulose	<1	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

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. Portland cement is not listed as a carcinogen by NTP, OSHA, or IARC. It may, however, contain trace amounts of substances listed as carcinogens by these organizations: crystalline silica, hexavalent chromium, lead compounds, mercury compounds, nickel compounds, and possibly other chemicals. See Section 11 : Toxicology Information for detailed information

MATERIAL	IARC	NTP	ACGIH	CAL- 65
Respirable Crystalline Silica	1	1	A2	Listed

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”

SECTION 16
OTHER INFORMATION

Label Information

ΔWARNING!

Dust created from product can cause severe chemical burns, serious eye damage or skin, nose, throat and upper respiratory irritation. Avoid inhalation of dust and eye and skin contact. Wear eye and skin protection. If user operations generate dust, contact lenses should not be worn. If eye contact occurs, flush thoroughly with water for 15 minutes. If irritation persists, call physician. If dust is generated**,** use in a well-ventilated area. Wear a NIOSH/MSHA-approved respirator when dusty. 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

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
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:
Product Safety
USG Corporation
125 South Franklin St.
Chicago, Illinois 60606

END