



SAFETY DATA SHEET

1. Identification

Product identifier HYDROCAL® Ortho
Other means of identification
SDS number 52000000091
Synonyms Orthopedic Gypsum
Recommended use Orthopedic Bandage.
Recommended restrictions Use in accordance with manufacturer's recommendations.

Manufacturer/Importer/Supplier/Distributor information

Company name United States Gypsum Company
Address 550 West Adams Street
Chicago, Illinois 60661-3637
Telephone 1-800-874-4968
Website www.usg.com
Emergency phone number 1-800-507-8899

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Not classified.
OSHA defined hazards Not classified.
Label elements
Hazard symbol None.
Signal word None.
Hazard statement None.
Precautionary statement
Prevention Observe good industrial hygiene practices.
Response Get medical attention/advice if you feel unwell.
Storage Store as indicated in Section 7.
Disposal Dispose of in accordance with local, state, and federal regulations.
Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Plaster of Paris (Calcium Sulfate Hemihydrate CAS 10034-76-1)	26499-65-0	> 95

All concentrations are in percent by weight unless ingredient is a gas.

4. First-aid measures

Inhalation Dust irritates the respiratory system, and may cause coughing and difficulties in breathing. Move injured person into fresh air and keep person calm under observation. Get medical attention if symptoms persist.
Skin contact Contact with dust: Rinse area with plenty of water. Get medical attention if irritation develops or persists.
Eye contact Dust in the eyes: Do not rub eyes. Flush thoroughly with water. If irritation occurs, get medical assistance.
Ingestion Plaster of Paris hardens and if ingested may result in stomach and intestinal blockage. Drinking gelatin solutions or large volumes of water may delay setting.

Most important symptoms/effects, acute and delayed	Under normal conditions of intended use, this product is not expected to be a health risk. Dust may irritate throat and respiratory system and cause coughing.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	Not applicable.
Specific hazards arising from the chemical	Not a fire hazard.
Special protective equipment and precautions for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials.
Specific methods	Cool material exposed to heat with water spray and remove it if no risk is involved.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	Vacuum up the spilled material. Vacuums used for this purpose should be equipped with HEPA filters. Containers must be labeled. Collect in approved containers and seal securely. For waste disposal, see Section 13 of the SDS.
Environmental precautions	Avoid discharge to drains, sewers, and other water systems.

7. Handling and storage

Precautions for safe handling	Minimize dust production when mixing, or opening and closing bags. Avoid inhalation of dust. Wear appropriate personal protective equipment. Wash hands after handling. Observe good industrial hygiene practices and use appropriate lifting techniques.
Conditions for safe storage, including any incompatibilities	Store in a cool, dry, well-ventilated place. Store away from incompatible materials. Avoid contact with acids, water, and moisture.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Plaster of Paris (Calcium Sulfate Hemihydrate CAS 10034-76-1) (CAS 26499-65-0)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Plaster of Paris (Calcium Sulfate Hemihydrate CAS 10034-76-1) (CAS 26499-65-0)	TWA	10 mg/m ³	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Plaster of Paris (Calcium Sulfate Hemihydrate CAS 10034-76-1) (CAS 26499-65-0)	TWA	5 mg/m ³	Respirable.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
		10 mg/m ³	Total
Biological limit values	No biological exposure limits noted for the ingredient(s).		
Appropriate engineering controls	Provide sufficient ventilation for operations causing dust formation. Observe occupational exposure limits and minimize the risk of exposure.		
Individual protection measures, such as personal protective equipment			
Eye/face protection	Wear approved safety goggles.		
Skin protection			
Hand protection	It is a good industrial hygiene practice to minimize skin contact. For prolonged or repeated skin contact use suitable protective gloves.		
Other	Normal work clothing (long sleeved shirts and long pants) is recommended.		
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure, air-supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.		
Thermal hazards	None.		
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment separately from regular wash. Observe any medical surveillance requirements.		

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Powder.
Color	White to off-white.

Odor Low to no odor.

Odor threshold Not applicable.

pH 6 - 8

Melting point/freezing point Not applicable.
Not applicable.

Initial boiling point and boiling range Not applicable.

Flash point Not applicable.

Evaporation rate Not applicable.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not applicable.

Flammability limit - upper (%) Not applicable.

Explosive limit - lower (%) Not applicable.

Explosive limit - upper (%) Not applicable.

Vapor pressure Not applicable.

Vapor density Not applicable.

Relative density 2.96 (H₂O=1)

Solubility(ies)

Solubility (water) 0.15 - 0.4 g/100 g (H₂O)

Partition coefficient (n-octanol/water) Not applicable.

Auto-ignition temperature Not applicable.

Decomposition temperature	2642 °F (1450 °C)
Viscosity	Not applicable.
Other information	
Bulk density	55 - 70 lb/ft ³
Particle size	Varies.
VOC (Weight %)	0 g/l

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	When mixed with water this product can become very hot. Encasing or making moulds of any body part can cause serious burns that may require surgical removal of affected tissue and even amputation of encased body part.
Incompatible materials	Acids. Exposure to water and acids must be supervised because the reactions are vigorous and produce large amounts of heat.
Hazardous decomposition products	Calcium oxides. Sulfur oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Ingestion may cause irritation and stomach discomfort.
Inhalation	Airborne dust may irritate throat and upper respiratory system causing coughing.
Skin contact	Under normal conditions of intended use, this product does not pose a skin hazard.
Eye contact	Direct contact with airborne particulates may cause temporary irritation.

Symptoms related to the physical, chemical and toxicological characteristics	Dust may irritate eyes and mucous membranes of the nose, throat and upper respiratory system causing sneezing and/or coughing.
---	--

Information on toxicological effects

Acute toxicity	Not expected to be a hazard under normal conditions of intended use.
Skin corrosion/irritation	Not a skin irritant.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not expected to cause respiratory sensitization based on non-skin sensitization history.
Skin sensitization	Not a skin sensitizer. Plaster of Paris has displayed little sensitization potential.
Germ cell mutagenicity	No evidence of mutagenicity found in Ames bacterial tests.
Carcinogenicity	This material is not classified as a carcinogen by IARC, ACGIH, NTP or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	Not expected to be a reproductive hazard.
Specific target organ toxicity - single exposure	No data available, but none expected.
Specific target organ toxicity - repeated exposure	No data available, but none expected.
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.
Chronic effects	No other specific acute or chronic health impact noted.

12. Ecological information

Ecotoxicity	The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
--------------------	--

Components	Species	Test Results
Plaster of Paris (Calcium Sulfate Hemihydrate CAS 10034-76-1) (CAS 26499-65-0)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) > 1970 mg/l, 96 hours
Persistence and degradability	Calcium sulfate dissolves in water forming calcium and sulfate ions.	
Bioaccumulative potential	Bioaccumulation is not expected.	
Mobility in soil	No data available.	
Other adverse effects	None expected.	

13. Disposal considerations

Disposal instructions	Dispose in accordance with applicable federal, state, and local regulations. Recycle responsibly.
Local disposal regulations	Dispose of in accordance with local regulations.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Dispose of in accordance with local regulations.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable. This product is a solid. Therefore, bulk transport is governed by IMSBC code.

15. Regulatory information

US federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed.
Superfund Amendments and Reauthorization Act of 1986 (SARA)	
Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance	Not listed.
SARA 311/312 Hazardous chemical	No
SARA 313 (TRI reporting)	Not regulated.
Other federal regulations	
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List	Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)	Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Plaster of Paris (Calcium Sulfate Hemihydrate CAS 10034-76-1) (CAS 26499-65-0)

US. New Jersey Worker and Community Right-to-Know Act

Plaster of Paris (Calcium Sulfate Hemihydrate CAS 10034-76-1) (CAS 26499-65-0)

US. Pennsylvania Worker and Community Right-to-Know Law

Plaster of Paris (Calcium Sulfate Hemihydrate CAS 10034-76-1) (CAS 26499-65-0)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 31-July-2014

Revision date -

Version # 02

Further information Plaster of Paris: Is classified as a hazardous substance but is generally considered a safe material for routine use. When plaster of Paris is used responsibly it is not considered as a dangerous material. However, when mixed with water this product can become very hot. DO NOT attempt to make a cast enclosing any part of the body. Encasing any body part can cause serious burns and even amputation of the encased body part.

NFPA Ratings:
Health: 1
Flammability: 0
Physical hazard: 0

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

NFPA ratings



Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.