

1. Chemical Product and Company Identification

Polytek Development Corp., 55 Hilton St., Easton, PA 18042, 610/559-8620

Product Name: **HYDROGEL[®]N MOLD COMPOUND**
Chemical Family: Mineral salts**2. Hazardous Constituents**

Ingredient/CAS #	Exposure Limits*
Magnesium carbonate, 546-93-0	OSHA PEL 15 mg/m ³ (inhalable)
Alginic acid, potassium salt, 9005-36-1	5 mg/m ³ (respirable)
Sodium pyrophosphate, 7722-88-5	ACGIH TWA 10 mg/m ³ (inhalable)
Calcium sulfate, 1317-65-3	3 mg/m ³ (respirable)

* The PEL and TLV for all individual components of this product are the PEL and TLV for "inert or nuisance dust," which are listed above.

3. Health Hazards

PRIMARY ROUTE(S) OF ENTRY: Inhalation, skin and eye contact

EYE: May cause irritation.

SKIN: Prolonged contact may cause drying.

INGESTION: May cause gastrointestinal discomfort if ingested in large amounts.

INHALATION: Excessive inhalation of dust may cause respiratory tract irritation and mechanically impede respiration due to hygroscopic properties; can form a paste in the airway.

MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE: Pre-existing upper respiratory ailments and lung disease.

CARCINOGENICITY: Not designated as a carcinogen by NTP, IARC, or OSHA.

CHRONIC EFFECTS: None known.

4. First Aid Measures

EYE CONTACT: Flush with water for 15 minutes. Seek medical attention if irritation develops.

SKIN CONTACT: Wash with soap and water.

INHALATION: Remove to fresh air. Treat symptomatically. Seek medical attention if symptoms persist.

INGESTION: If alert, drink syrup of ipecac, then induce vomiting. Seek medical attention.

5. Fire Fighting Measures

FLASH POINT: Not applicable

EXTINGUISHING MEDIA: Water spray and/or foam; but product is not normally combustible.

HAZARDOUS COMBUSTION PRODUCTS: Metal oxides, carbon monoxide and carbon dioxide

OTHER INFORMATION: Product is slippery when wet.

6. Accidental Release Measures

Shovel, sweep, or vacuum spilled product into containers. If air is dusty, use respiratory protection or evacuate and return after dust settles. Do not discharge material to sewers. If spill area gets wet, it may be very slippery.

7. Handling and Storage

HANDLING: Avoid breathing dust. No other special precautions.

STORAGE: Store in closed container in a cool, dry area.

8. Exposure Controls/Personal Protection

ENGINEERING CONTROLS: Provide general and/or local exhaust to minimize dust.

PERSONAL PROTECTIVE EQUIPMENT: Eye protection and gloves are recommended.

RESPIRATORY PROTECTION: Wear a particulate dust mask. Observe respirator use limitations specified by manufacturer.

9. Physical Characteristics

APPEARANCE: White to off-white powder

ODOR: Slight odor

BOILING POINT: Not applicable

VAPOR PRESSURE: Not applicable

SOLUBILITY IN WATER: Negligible

SPECIFIC GRAVITY: 0.3

10. Stability and Reactivity

CONDITIONS TO AVOID: None known

INCOMPATIBILITY WITH OTHER MATERIALS: Acids and strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Metal oxides and carbon oxides

11. Regulatory and Other InformationCOMMUNITY RIGHT-TO-KNOW: This product does not contain any compounds above the *de minimis* reporting levels subject to SARA Section 313 reporting requirements.

DISPOSAL: Upon disposal, this product is not a RCRA hazardous waste.

TRANSPORT: Not a hazardous material for shipping purposes based on *United Nations Recommendations for the Transport of Dangerous Goods* and 49 CFR Part 171.

EMERGENCY SHIPPING INFORMATION: Call CHEMTREC, 800/424-9300.

HMIS RATING: Health-1; Flammability-0; Reactivity-0; PPE-B

REVISION INDICATOR: Revisions in Sections 2 and 3.

DISCLAIMER: The information contained herein is considered accurate; however, Polytek makes no warranty regarding the accuracy of the information. The user must determine the suitability of the product for the intended use and accepts all risk and liability associated with that use.

Hydrogel® N Mold Compound

Non-Toxic — Safe For Body Contact

DESCRIPTION: Hydrogel® N is a white powder that after mixing with water cures in about 5 minutes to a moist, rubbery material. Use Hydrogel N to make quick, single-use molds, especially when skin contact is required. Plaster, wax, and certain EasyFlo Plastics can be cast into Hydrogel N molds.

MODEL PREPARATION: Hydrogel N can be poured on most surfaces with minimal preparation, but a small test cure should be made prior to use to be sure that Hydrogel N releases cleanly and does not damage water sensitive surfaces. To seal questionable surfaces, apply a thin coat of petroleum jelly or Pol-Ease® 2300 Release Agent.

MIXING AND CURING: Weigh or measure proper amounts of Hydrogel N powder and room temperature water. The mix ratio is 3 parts water to 1 part Hydrogel N, by weight, or approximately 1 water to 1¼ Hydrogel N, by volume. Mix together rapidly to a creamy consistency, but avoid whipping in air. For best results, use a Turbo Mixer on a variable speed drill. Add powder or water as needed to thicken or thin the mix. Working time is about 5 minutes, but can be extended using Retarder Solution (see table below). Apply the creamy mix to the model surface with a flowing motion, pushing air ahead of the mix. Demold with care 2 to 3 minutes after the mix has gelled.

To make a large blanket mold, make and apply a series of mixes within 5 minutes of one another. Hydrogel N bonds to itself if the previous mix is not completely gelled. To help a new mix bond to already gelled Hydrogel N, wipe the gelled material with a saturated solution of water and baking soda (sodium bicarbonate). Add food color to the bonding solution so that you know where it

Features

- Non-toxic -- Safe for body casts
- Easy to use -- Just add water and mix
- Good reproduction of fine detail
- Early strength for fast demold
- Variable working time
- Low cost

has been applied. Continue layering Hydrogel N as needed to make a ~3/8-inch-thick blanket mold. In the final layer of wet Hydrogel N, press "teased" cotton (cotton rolls, available at any pharmacy) evenly over the entire mold surface and allow to gel. Remove excess cotton by pulling gently, leaving a thin layer of exposed fibers. As soon as Hydrogel N is firm, mix and apply a plaster mold shell using bandages, cheesecloth, or hemp embedded in the plaster. The exposed cotton fibers in the mold will bond to the plaster shell helping to keep the mold attached. When the plaster shell is set, remove the Hydrogel N mold/plaster shell.

USING THE MOLD: In order to make a casting with the same dimensions as the original, use the mold when it is as fresh as possible since Hydrogel N molds shrink as they dry. Plaster and wax (< 212°F) can be cast in Hydrogel N molds. In addition, some fast-curing polyurethane plastics (e.g., EasyFlo 60) and platinum-cured silicones (e.g., PlatSil Gel-10) can be successfully cast in Hydrogel N molds. However, perform small test cures before using in production to determine if casting quality is acceptable for the intended use.

Molds can be kept useable in plastic bags or sealed containers for up to a few days. Molds should then be discarded.

SAFETY: Before use, read product label and Material Safety Data Sheet. Follow safety precautions and directions. Handle Hydrogel N carefully to avoid dust generation. Wear a dust mask. Avoid eye contact. Hydrogel N is not for human consumption or use against mucous membranes. Keep skin contact as brief as possible. Prior to placing Hydrogel N on hair, slick down hair with petroleum jelly or cholesterol hair conditioning cream.

STORAGE LIFE: At least six months in unopened containers stored at room temperature (60-90°F).

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Optional Liquid Retarder	
% Retarder in Water	Approx. Working Time
0	5 min
3	7 min
6	8 min
9	10 min

Packaging	
Product	Volume
Hydrogel® N	1 qt
	1 gal
	5 gal
Retarder Solution	1 qt