

Educational Innovations^{INC}[®]

SS-14A Clear JelTM

Not packaged for human consumption.

Two tablespoons of this white powder will make a cup of clear gel that can be colored and used to teach the mixing of colors.

Stirring together globs of oil or acrylic paints has been a good way for children to study the mixing of colors. The mixing occurs slowly and can be stopped at any point. It is especially instructive to mix only a portion of two different colored globs of paint. This allows children to see the original colors, as well as the mixture. Both oil and acrylic paints, however, have the disadvantage of being expensive and difficult to clean. Clear-JelTM, when mixed with food colorings, creates the same effect, but is inexpensive and easy to clean.

Preparation:

Fast Method - 30 Seconds

Pour a cup of hot water from the tap into a blender. Turn on the blender to an intermediate speed and slowly sprinkle two tablespoons of Clear-JelTM into the vortex over a 30 second period.

Intermediate Method - 15 Minutes

Slowly sprinkle two tablespoons of Clear-JelTM into one cup of water in a small saucepan. Stir vigorously with a wire whisk or spoon over medium to high heat until all of the clumps have dissolved. This takes about 15 minutes.

Slow Method - 12 Hours

Slowly stir two tablespoons of Clear-JelTM into a cup of water from the tap and set aside. Stir occasionally. Over the next twelve hours, the white clumps of Clear-JelTM will dissolve in the water and become clear.

Use:

Divide the clear gel into several portions and color each differently with food coloring. Give the students a small amount of two different colors, e.g., blue and yellow, on a piece of aluminum foil, plastic wrap, or inside a clear plastic "zippered" sandwich bag. Ask the students to observe what happens when the two colors are mixed together.

Make a "stained glass" window effect by allowing colored Clear-JelTM to dry on a transparent piece of plastic. When dry, hang in a window.



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MATERIAL SAFETY DATA SHEET

PRODUCT: #SS-14 Instant ClearJel (A finely divided powder)

Emergency Phone: 866-359-5657

CHEMICAL NAME AND SYNONYMS: ClearJel, Instant ClearJel, Modified Food Starch

CHEMICAL FAMILY: Modified Starch (Used in the baking industry. Similar in physical properties to powdered sugar and flour.)

HAZARD IDENTIFICATION (many applicable only to powdered form):

General: Possible irritant from dust partials. Potential for dust explosion when large amounts are dispersed in air.

Eye: Particulates may scratch eye surfaces and cause irritation.

Skin: Low order of toxicity.

Inhalation: This product can produce a nuisance dust, which should be maintained below a time weighted average of 10 mg/m³.

Ingestion: Low oral toxicity.

FIRST-AID MEASURES:

General: Possible irritant from dust partials. Potential for dust explosion.

Eye: Remove particles by irrigating with eye wash solution or clean water, holding eyelids apart. If symptoms develop, obtain medical attention.

Skin: Wash skin with soap and water.

Inhalation: Remove to fresh air. If symptoms develop, obtain medical attention.

Ingestion: None required.

FIREFIGHTING MEASURES:

AUTO IGNITION:

Not available

FLASH POINT:

Not applicable

EXTINGUISHING MEDIA:

Dry Chemical; CO₂; Water Fog; Foam

SPECIAL FIREFIGHTING PROCEDURES:

No special procedures are required.

FIRE & EXPLOSION HAZARDS:

Minimum ignition temperature of dust cloud- approx. 390C. Minimum explosive concentration- approx. 70 mg/l. Minimum energy to ignite cloud by electrical spark- approx. 0.06 joules.

HAZARDOUS COMBUSTION PRODUCTS:

Does not undergo spontaneous decomposition. Typical combustion products are carbon monoxide, carbon dioxide, nitrogen and water.

LOWER EXPLOSION LIMIT (%):	Not applicable
UPPER EXPLOSION LIMIT (%):	Not applicable
FLAMMABILITY HAZARD CLASS:	1 = Slight.
ACCIDENTAL RELEASE MEASURES	
SPILL AND LEAK PROCEDURES:	Normal precautions for "nuisance dust" should be observed. Avoid prolonged inhalation of dust. Sweep up or vacuum up and place in suitable container for disposal. For safety and environmental precautions, please review entire Material Safety Data Sheet for necessary information.
HANDLING AND STORAGE	
STORAGE TEMPERATURE	Ambient.
SENSITIVITY TO STATIC ELECTRICITY	Yes
SENSITIVITY TO MECHANICAL IMPACT	No
OTHER PRECAUTIONS	Use care to minimize dust generation in normal use conditions. Avoid dispersing the powder in the air. Prevent buildup of powder on surfaces.
EXPOSURE CONTROLS/PERSONAL PROTECTION	
VENTILATION REQUIREMENTS	General.
EYE PROTECTION REQUIREMENTS	Safety glasses recommended.
GLOVE REQUIREMENTS	Gloves are not normally required for use.
CLOTHING REQUIREMENTS	Not applicable.
CHANGE/REMOVAL OF CLOTHING	Not normally required.
WASH REQUIREMENTS	Wash before eating, drinking, or using toilet facilities.
RESPIRATOR REQUIREMENTS	NIOSH approved dust mask.
PHYSICAL AND CHEMICAL PROPERTIES	
PURE SUBSTANCE OR MIXTURE	Pure
PHYSICAL FORM	Powder.
COLOR	White
ODOR	Starch
ODOR THRESHOLD	Not available
MOLECULAR WEIGHT	> 10000
PH AS IS	Not applicable
pH IN (1%) SOLUTION	Approximately 6
OXIDIZING PROPERTIES	Not applicable
BOILING POINT	Not applicable
MELTING/FREEZING POINT	Not applicable
SOLUBILITY IN WATER	Soluble
PARTITION COEFFICIENT (n-octanol/water)	Not applicable
VISCOSITY	Not applicable
SPECIFIC GRAVITY (WATER=1)	1.5
BULK DENSITY	Not available
EVAPORATION RATE	Not applicable
VAPOR PRESSURE (mmHg)	Not applicable
VAPOR DENSITY (air = 1)	Not applicable
VOLATILES	None
VOLATILE ORGANIC COMPOUNDS	Not applicable
AUTO IGNITION	Not available
FLASH POINT	Not applicable

STABILITY AND REACTIVITY	
STABILITY	Stable
REACTIVITY HAZARD CLASS	0 = Stable
HAZARDOUS DECOMPOSITION PRODUCTS	This product does not undergo spontaneous decomposition. Typical combustion products are carbon monoxide, carbon dioxide, nitrogen and water.
TOXICOLOGICAL INFORMATION	
ROUTE OF ENTRY	Eye Contact; Skin Contact; Inhalation; Ingestion
CHRONIC (LONG TERM) EFFECTS OF EXPOSURE	
EFFECTS OF CHRONIC EXPOSURE	This product is considered as being non-toxic. Use of good industrial hygiene practices is recommended.
TARGET ORGANS	Not applicable.
CARCINOGEN	No.
ECOLOGICAL INFORMATION	
POTENTIAL TO BIOACCUMULATE	Unknown.
AQUATIC TOXICITY	None Established
DISPOSAL CONSIDERATIONS	
WASTE DISPOSAL METHODS	Disposal should be in accordance with local, state or national legislation.
EMPTY CONTAINER	Empty containers may contain product residue; follow MSDS and label warnings even after they have been emptied.
TRANSPORTATION INFORMATION	
DOT CLASSIFICATION	
PROPER SHIPPING NAME	Not regulated.
The information provided herein may not include the impact of additional regulatory requirements (e.g., for materials meeting the definition of a hazardous waste under RCRA, hazardous substances under CERCLA, and/of marine pollutants under CWA or other similar federal, state or local laws) or any associated exceptions or exemptions under regulations applicable to the transport of this material.	
REGULATORY INFORMATION	
USA	
TSCA All components are on the TSCA inventory.	
FDA 21CFR172.892.	
SARA/TITLE III CAS NUMBER CONCENTRATION (%)	
Contains no substances at or above the reporting threshold under Section 313.	
ADDITIONAL INFORMATION: The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.	

Updated - July 2003