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MATERIAL SAFETY DATA SHEET [MSDS]

(* This MSDS is based on format of American National Standard Institute.)

Creation Date : Dec. 02, 1998 Revision Date : 1 February 2015

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFITION ****

Product Identifier: GLUE STICK

Color: white Size: 8 Grams

purple 15 Grams blue 25 Grams 35 Grams

General Use: Glue

**** SECTION 2 - HAZARDS DENTIFICATION ****

EMERGENCY OVERVIEW

There are no emergency overview specially.

(Any damage cause against skin contact and eye contact, and other contacts aren't reported)

Potential Health Effects

Eye:

Cause no eye irritation when scrubed to eyes with polluted hands.

Skin:

Cause no skin irritation by skin contact.

Ingestion:

See the section 15(ITEM: Acute oral toxicity)

Inhestion ·

Cause no damage when inhaling it vapor.

**** SECTION 3 - FIRST AID MEASURES ****

Eyes:

Flush eyes with plenty of water. Though a little congestion, if you inflict a friction to eyes, take a rest few minutes with shut an eyelid.

Skin:

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Cause no any special damage. Wash with water.

Ingestion:

Cause no serious damage by a small quantity. Get medical aid, if you intake a large quantity.

Inhaltion:

It is not needed a first aid.

**** SECTION 4 - FIRE FIGHTING MEASURES ****

General Information:

Extinguishing Media:

In case of fire use water spray, dry chemical, carbon dioxide, or other common extinguish media. (There is few flammability in the original condition of product)

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

NFPA Rating: No data

Explosion Limits, Lower: Not applicable.

Upper: Not applicable.

**** SECTION 5 - ACCIDENTAL RELEASE MEASURES ****

General Information:

Use proper personal protective equipment as indicated section in 8.

Spills/Leaks:

No need a special action.

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**** SECTION 6 - HANDLING and STORAGE ****

Handling:

No need a special production line or control technology.

Storage:

Store in a cool, dry place.

Individual container of product: cover a cap after used tightly.

**** SECTION 7 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Facilities strong or utilizing this material should be equipped with an eyewash facility and a safety shower.

Personal Protection

Eyes Protection: Not need specially.

Skin Protection: If possible, care about touch to skin by content.

Clothing: Not available. Respiratory Protection: Not available.

**** SECTION 8 - COMPOSITION, PHYSICAL AND CHEMICAL PROPERTIES *****

INGREDIENTS	CAS/CI#	PERCENT	Exposure Limit(mg/m3)
EDIBLE SUGAR	57-50-1	2.50	Free limitation
POLYVINYL ACETATE RESIN	9003-20-7	Fit volume	Not comformed
SILICON	7440-21-3	0.80	"
METHYL P-HYDROXYBENZOATE	5026-62-0	0.35	"
POLYVINYLPYRROLIDONE	9003-39-8	21.75	"
SODIUM HYDROXIDE	1310-13-2	1.27	u u
GLYCERINE	56-81-5	Fit volume	"
SODIUM STEARATE	822-16-2	8.30	"
WATER	7732-18-5	57.60	11

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Physical State	Solid Stick Type.
Appearance	White
Odor	Feeble (Organic substance vapor)
рН	9.0 - 10.0
Vapor Density	Not applicable.
Evaporation Rate	Not applicable.
Viscosity	Less than 70 wt - %
Boiling Point	
Freezing/Melting Point	98℃
Decomposition Temperature	
Solubility	soluble in cold and hot water
Specific Gravity/Density	$(1.02 - 1.06 \text{cm}^3)/(1.02 - 1.06)$
Molecular Formula	Amorphousness
Melecular Weight	Not applicable.

**** SECTION 9 - STABILITY AND REACTIVITY ****

Chemical Stability:

Stable under normal temperatures and pressures.

Condition to Avoid:

Not available.

Incompatibilities with other Materials:

Weak oxidizing agents and water.

Hazardous Decomposition Products:

None

Hazards Polymerization : Available.

Has not been reported.

**** SECTION 10 - TOXICOLOGICAL INFORMATION ****

LD50/LC50:

No information available.

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Multagenicity:

No information available.

Teratogenicity & Reproductive Effects:

No information available.

Carcinogenicity:

Not listed by ACGIH, IARC, NIOSH, or OSHA. (In case of colored product's must confine below 0.0254 wt-%: 1 pigment ingredient.)

**** SECTION 11 - ECOLOGICAL INFORMATION ****

Ecotoxicity: Not evaluated completely.

**** SECTION 12 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with internal regulation for environmental protection.

**** SECTION 13 - TRANSPORT INFORMATION ****

Not established.

**** SECTION 14 - REGULATORY INFORMATION ****

ITEM	Regulation	Requirement	Result
Skin patch	Certificating rule by Korea Consuming	Almost Negative	Almost Negative
	Science Research Center	- Negative	
Heavy metal's	EN 71, Part 3.		Not detected or
content			Less than 1.0PPM
Free formaldehyde	KS K 0611. B, Acetone method		Less than 1.0PPM
content	AATCC - 112		Less than 1.011 W
Pentachloro	IWS R. N. ET - 674(GC)		Not detected
Phenol content			Not detected
Allergenic Dystuff	Indentification of allergenic dyestuff		All-Not verifiable
	by TLC method, and reconfirmed by High		(Test result:

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	Pressure Liquid Chromatography-Diode array detector (HPLC - Diode array	Negative	Negative)
	detector-Hewlett packed 1100)		
Arilamines	Reduction with Sodiumdithionic, after	Textiles,	All-Not detected
	extraction incitrate buffer solution.	Leathers, etc:	(Test result:
	Indentification of carcinogenic arylamines	30mg/kg	Negative)
	by TLC method, and reconfirmed by	(Negative)	
	gaschoromatography-mass spectrometry		
	(Mass selective detector-Hewlet packed		
	5972)		
Antibacterial	Certificating rule by Korea Consuming		
	Science Research Center	Above	Above
	* Method : Shake flask method	90%-Sterilization	99.0%-Sterilization
	* Used Virus :		
	- Escherichia coli ATCC 25922		
	- Bacillus megaterium ATCC 10778		
	ASTM (G-21 and G-22)		Not grown
Eye irritation			

**** SECTION 14 - REGULATORY INFORMATION ****

ITEM	Regulation	Requirement	Result
Acute oral toxicity	OECD's Guidelines for the testing of		
	chemicals.		
	* 401. Acute oral toxicity		
	Estnating acute oral toxicity in Rates.		
	* Test method : ASTM E 1163(11.05)		
Micronucleus	OECD's Guidelines for the test of		
assay	chemicals.		
	* 474. Genetic toxicology:		
Reverse			
multation assay	Conduct of Micronucleus Test.		
	* Guide for ASTM E1263 (11.05)		
	* Guide for ASTM E1202 (11.05)		
	OECD's Guidelines for the testing of chemicals		
	* 471. Genetic toxicology:		
	Salmonella typhimurium, Reverse mutation assay.		

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**** SECTION 15 - ADDITION INFORMATION ****

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchant ability or any other warranty, express or implied, respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

For user's safety informations in treatment, we will keep up making MSDS to be more available base on test of verification by gradual degrees.

Accordingly, if the man who require to us for get new informations, he will be determinate for his safety from any harmful risk.

Please refer to the MSDS effective date (creation and revision) for distinguish between new or not, recorded above SECTION 1.