

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

- 1.1 Product identifier: SHINHAN Touch Liner Green
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:  
 Relevant identified uses: Marking pen ink.  
 Uses advised against: No data available.
- 1.3 Details of the supplier of the safety data sheet:  
 Company name : SHINHANART MATERIALS INC.  
 Address : 154 Bulgwang-ro, Eunpyeong-gu, Seoul, Korea  
 Email : info@shinhanart.com
- 1.4 Emergency telephone number:  
 - Tel : +82 02-357-2651 - Fax : +82 02-357-7481

**SECTION 2: Hazards identification**

- 2.1 Classification of the substance or mixture:  
 2.1.1 Classification according to Directive 1999/45/EC:  
 Xn; R22  
 2.1.2 Classification according to Regulation (EC) No 1272/2008:  
 Acute Tox. 4, H302
- 2.2 Label elements:  
 Labeling according to Regulation (EC) No 1272/2008:  
 Pictograms:



- Signal word:  
Warning
- Hazard statements:  
H302 : Harmful if swallowed.
- Precautionary statements:  
 P264 Wash ... thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product..  
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P330 Rinse mouth.  
 P501 Dispose of contents/container in accordance with local/ regional/ national/ international regulations.
- 2.3 Other hazards: No additional information available.

**SECTION 3: Composition/information on ingredients**

- 3.1 Substances: Not relevant.
- 3.2 Mixtures: The mixture contains these substances:

Substance name	EC/CAS No.	Registr. No.	Classification				Conc. (%)
			67/548/EEC	CLP			
				Hazard Class and Category Code(s)	Hazard statement	Pictogram/Signal word	
Ethylene Glycol	203-473-3/ 107-21-1	-	Xn; R22	Acute Tox. 4	H302	GHS07 Wng	10-30
Glycerol	200-289-5/ 56-81-5	-	Not classified	Not classified			10-30
Water	231-791-2/ 7732-18-5	-	Not classified	Not classified			40-70
Pigment Green	TRADE SECRET		Not classified	Not classified			5-10

For full text of R- and H-phrases see section 16.

**SECTION 4: First aid measures**

- 4.1** Description of first aid measures:  
Following inhalation: Move to fresh air. Call a physician if symptoms develop or persist.  
Following skin contact: Wash off with soap and water. Get medical attention if irritation or rash develops.  
Following eye contact: Rinse with water at least 10 minutes. Get medical attention if irritation develops and persists.  
Following ingestion: Rinse mouth. Do not induce vomiting. If patient is conscious, give water to drink. Seek immediate medical attention.
- 4.2** Most important symptoms and effects, both acute and delayed: Ingestion may result in liver and kidney damage.
- 4.3** Indication of any immediate medical attention and special treatment needed: Provide general supportive measures and treat symptomatically. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**SECTION 5: Firefighting measures**

- 5.1** Extinguishing media:  
Suitable extinguishing media: Foam. Or water jet, Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).  
Unsuitable extinguishing media: No data available.
- 5.2** Special hazards arising from the substance or mixture: CO, CO<sub>2</sub>, NO<sub>x</sub>, Smoke
- 5.3** Advice for firefighters: Move containers from fire area if you can do so without risk. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

**SECTION 6: Accidental release measures**

- 6.1** Personal precautions, protective equipment and emergency procedures:  
For non-emergency personnel: No data available.  
For emergency responders: No data available.
- 6.2** Environmental precautions: Do not allow material to contaminate sewers.
- 6.3** Methods and material for containment and cleaning up: Absorb in pieces of cloth, vermiculite, or dry sand and clean up with a wet.
- 6.4** Reference to other sections: See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

**SECTION 7: Handling and storage**

- 7.1** Precautions for safe handling: No specific recommendations for technical measures. When using do not eat, drink or smoke. Avoid skin and eye contact. Close cap after used. Use personal protection recommended in Section 8 of the MSDS. For further information on contact avoidance measures, please refer to section 10 of the MSDS.
- 7.2** Conditions for safe storage, including any incompatibilities: Store in original tightly closed container. Store in a cool(below 35°C), dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the MSDS). Safe packaging materials: Keep in original container.
- 7.3** Specific end use(s): No data available.

**SECTION 8: Exposure controls/personal protection**

- 8.1** Control parameters:  
European Union (Directive 98/24/EC): Not established.
- 8.2** Exposure controls: No data available.
- 8.2.1** Appropriate engineering controls: No data available.
- 8.2.2** Individual protection measures, such as personal protective equipment:
- 8.2.2.1 Eye/face protection: In risk of splashing, use eye/face protection.(Safety goggles)
- 8.2.2.2 Skin protection:  
Hand protection:  
Other:

8.2.2.3 Respiratory protection:

8.2.2.4 Thermal hazards: No data available.

8.2.3 Environmental exposure controls: Avoid discharge into drains, water courses or onto the ground.

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties:**

Appearance:	Colored liquid
Odour:	Slightly
Odour threshold:	no data available
pH:	no data available
Melting point/freezing point:	<0°C
Initial boiling point and boiling range:	100-110°C
Flash point:	no data available
Autoignition point:	no data available
Evaporation rate:	no data available
Flammability (solid, gas):	not flammable
Upper/lower flammability or explosive limits:	no data available
Vapour pressure:	no data available
Vapour density:	no data available
Relative density:	1.0-1.2
Solubility in water:	Soluble
Solubility in solvent:	Soluble in alcohol
Partition coefficient: n-octanol/water:	no data available
Decomposition temperature:	no data available
Viscosity:	no data available
Explosive properties:	not explosive
Oxidising properties:	not oxidising

**9.2 Other information:** No data available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity:** The product is stable and non-reactive under normal conditions of use, storage and transport.

**10.2 Chemical stability:** Material is stable under normal conditions.

**10.3 Possibility of hazardous reactions:** No dangerous reaction known under conditions of normal use.

**10.4 Conditions to avoid:** Heat, high temperature and fire sources.

**10.5 Incompatible materials:** Acids, Oxidizing agents.

Hazardous decomposition products: CO, CO<sub>2</sub>, NO<sub>x</sub>.

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects:**

Low acute oral toxicity, however ingestion may cause systemic effects such as damage liver and kidneys which may become apparent later. High vapour concentrations are irritating to mucous membranes and the respiratory tract. Slight to moderate eye and skin irritant. No reported evidence of carcinogenic, mutagenic or adverse reproductive effects.

**SECTION 12: Ecological information**

**12.1 Toxicity:**

The product is 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.

*Ethylene Glycol*(CAS 107-21-1)

LC50, Pimephales promelas, 96 h: 8050 mg/l

LC50, Daphnia magna, 48 h: 41100 mg/l

EC50, Selenastrum capricornutum, 96h : 6500~13000 mg/l

**12.2 Persistence and degradability:** No data is available on the degradability of this product.

**12.3 Bioaccumulative potential:** No data available.

**12.4 Mobility in soil:** No data available.

**12.5 Results of PBT and vPvB assessment:** No data available.

**12.6 Other adverse effects:** No data available.

**SECTION 13: Disposal considerations**

Via an authorized waste disposal contractor to an approved waste disposal site, observing all local and national regulations.

As substance. Used containers must not be cut up or punctured until completely purged of product residues.

**SECTION 14: Transport information**

- 14.1 UN number: Not applicable. Not regulated as dangerous goods.
- 14.2 UN proper shipping name: Not applicable.
- 14.3 Transport hazard class(es): Not applicable.
- 14.4 Packing group: Not applicable.
- 14.5 Environmental hazards: Not applicable.
- 14.6 Special precautions for user: Not applicable.
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

**SECTION 15: Regulatory information**

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:  
The substances in the mixture are not subject to authorisation under Title VII or restrictions under Title VIII of Regulation (EC) No. 1907/2006.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;

Regulation (EC) No 1272/2008 of the European parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;

COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH);

DIRECTIVE 1999/45/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations;

COUNCIL DIRECTIVE of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (67/548/EEC).

Industrial Safety and Health Act

Notifiable substances: Not regulated.

Labeling substances: Not regulated.

Poisonous and Deleterious Substances Control Act

Specified poisonous substances: Not regulated.

Poisonous substances: Not regulated.

Deleterious substances: Not regulated.

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

Class I specified chemical substances: Not regulated.

Class II specified chemical substances: Not regulated.

Monitoring chemical substances: Not regulated.

Priority Assessment Chemical Substances (PACs): Not regulated.

Reporting Exempted Substances: Not regulated.

Law concerning Pollutant Release and Transfer Register

Specified class 1 substances (substance name, ordinance number and content): Not regulated.

Class 1 substances (substance name, ordinance number and content): Not regulated.

Class 2 substances (substance name, ordinance number and content): Not regulated.

Ship Safety Law, Dangerous Goods Marine Transport and Storage Rule: Not regulated.

Air Law, Enforcement Rule: Not regulated.

Explosives Control Act: Not regulated.

**15.2** Chemical safety assessment: Chemical safety assessment is not available.

#### **SECTION 16: Other information**

**16.1** List of relevant risk phrases and hazard statements:

R22 Harmful if swallowed.

H302 Harmful if swallowed.

**16.2** Instructions for the training: No data available.

**16.3** Recommended restrictions on use (i.e. non-statutory recommendations by supplier): Avoid high temperature.

**16.4** Sources of key data used to compile the Safety Data Sheet: SDS was elaborated according to requirements set in Annex II of Regulation (EC) No 1907/2006 of the European Parliament and of the Council. SDS was prepared using data from the producer.

**16.5** Sources of key data used to compile the Safety Data Sheet: SDS was elaborated according to requirements set in Annex II of Regulation (EC) No 1907/2006 of the European Parliament and of the Council. SDS was prepared using data from the producer.

**16.6** Purpose of SDS: Purpose of this SDS is to provide relevant information for users of product to ensure proper handling and control of risks/hazards.