

# TEST REPORT

1. No : CT13-80252

Reissuance (R1)

2. Client :

Date : Aug. 27, 2013

○ Name : Shinheung Chemical Co., Ltd.

○ Address : 55-29, Sangpyeong-dong, Jinju-si, Gyeongsangnam-do, Korea.

○ Date of Receipt : Aug 7, 2013

○ Date of Issued : Aug 27, 2013

3. Use of Report :

4. Test Sample : PVC WRAP-2

5. Method :

(1) KS M 3001:2001

(2) KS M ISO 14782:2008

(3) KS M 0031 : 2002

(4) Standards & Specifications for Equipments, Containers and Package.

(5) KS M 0031:2002(GC/MS)

Affirmation	Tested By	Technical Manager
	Name : Cha Wook Nam <i>C.W. Nam</i>	Name : Ahn, Byoung Kwon <i>ABK</i>
<p>Our report apply only to the standards or procedures identified and to the sample(s) tested unless otherwise specified. The test results are not indicative of representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products.</p>		

Korea Conformity Laboratories

President Song Jae Bin

*Jae Bin Song*

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Result Inquiry : Incheon & Gyeonggi Branch 82-32-819-0374

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## 6. Test Results

### 1) PVC Wrap-2

Test Item(s)	Unit	Standard	Test method used	Test Result(s)
Thickness(Ave.)	mm		(1)	0.010
Thickness(Max.)	mm		(1)	0.012
Thickness(Min.)	mm		(1)	0.009
Tensile strength(C.D.)	N/cm <sup>2</sup>		(1)	3 570
Tensile strength(M.D.)	N/cm <sup>2</sup>		(1)	4 100
Elongation(C.D.)	%		(1)	310
Elongation(M.D.)	%		(1)	400
Tear strength(C.D.)	N/cm		(1)	1 280
Tear strength(M.D.)	N/cm		(1)	1 170
Haze	%		(2)	1.1
4-n-Nonylphenol	mg/kg	-	(3)	Not detected(Detection limit 10)
4-n-Octylphenol	mg/kg	-	(3)	Not detected(Detection limit 10)
4-tert-octylphenol	mg/kg	-	(3)	Not detected(Detection limit 10)
Nonylphenol isomers	mg/kg	-	(3)	Not detected(Detection limit 20)

### 2) PVC WRAP-2

Test Item(s)	Unit	Standard	Test method used	Test Result(s)
Residual Vinylchloride	mg/kg	1 or less	(4)	Not detected
Residual Dibutyltin compounds (as Dibutyltin dichloride)	mg/kg	50 or less	(4)	Not detected
Residual Cresol Phosphorate Esters	mg/kg	1 000 or less	(4)	Not detected
Extraction Lead(Pb)	mg/L	1 or less	(4)	Not detected
Extraction Consumption of KMnO <sub>4</sub>	mg/L	10 or less	(4)	1
Extraction Residue on evaporation 4 % Acetic acid	mg/L	30 or less	(4)	10
Extraction Residue on evaporation Water	mg/L	30 or less	(4)	12
Extraction Residue on evaporation n-Heptane	mg/L	150 or less	(4)	214
Extraction Residue on evaporation 20 % Ethanol	mg/L	30 or less	(4)	24
Extraction DBP 4 % Acetic acid	mg/L	0.5 or less	(4)	Not detected
Extraction DBP Water	mg/L	0.5 or less	(4)	Not detected
Extraction DBP n-Heptane	mg/L	0.5 or less	(4)	Not detected

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Extraction DBP 20 % Ethanol	mg/L	0.5 or less	(4)	Not detected
Extraction BBP 4 % Acetic acid	mg/L	30 or less	(4)	Not detected
Extraction BBP Water	mg/L	30 or less	(4)	Not detected
Extraction BBP n-Heptane	mg/L	30 or less	(4)	Not detected
Extraction BBP 20 % Ethanol	mg/L	30 or less	(4)	Not detected
Extraction DEHA 4 % Acetic acid	mg/L	18 or less	(4)	Not detected
Extraction DEHA Water	mg/L	18 or less	(4)	Not detected
Extraction DEHA n-Heptane	mg/L	18 or less	(4)	Not detected
Extraction DEHA 20 % Ethanol	mg/L	18 or less	(4)	Not detected
Extraction DEHP 4 % Acetic acid	mg/L	1.5 or less	(4)	Not detected
Extraction DEHP Water	mg/L	1.5 or less	(4)	Not detected
Extraction DEHP n-Heptane	mg/L	1.5 or less	(4)	Not detected
Extraction DEHP 20 % Ethanol	mg/L	1.5 or less	(4)	Not detected
Extraction DINP 및 DIDP 4 % Acetic acid	mg/L	9 or less(In total)	(4)	Not detected
Extraction DINP 및 DIDP Water	mg/L	9 or less(In total)	(4)	Not detected
Extraction DINP 및 DIDP n-Heptane	mg/L	9 or less(In total)	(4)	Not detected
Extraction DINP 및 DIDP 20 % Ethanol	mg/L	9 or less(In total)	(4)	Not detected
Extraction DNOP 4 % Acetic acid	mg/L	5 or less	(4)	Not detected
Extraction DNOP Water	mg/L	5 or less	(4)	Not detected
Extraction DNOP n-Heptane	mg/L	5 or less	(4)	Not detected
Extraction DNOP 20 % Ethanol	mg/L	5 or less	(4)	Not detected
Residual 4-tert-Octylphenol	mg/kg	-	(5)	Not detected
Residual 4-n-Octylphenol	mg/kg	-	(5)	Not detected
Residual Nonylphenol isomer	mg/kg	-	(5)	Not detected
Residual 4-n-Nonylphenol	mg/kg	-	(5)	Not detected

- Material : Polyvinylchloride

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