M&M Industries, Inc.

UN SOLIDS TEST REPORT

6.5 New Generation Pail with Gasketed Cover

Test Type: Periodic Retest

Additional Package Designs Covered by this report:

3.5 NG w/Gasketed Cover, 5.0 NG w/Gasketed Cover, 5.9 NG w/Gasketed Cover

Test Report Number: NG65-17G

Completion Date: 8/24/2018

Test Facility/Packaging Manufacturer

Test Facility: M&M Industries, Inc.
316 Corporate Place
Chattanooga, TN 37419

Packaging Manufacturer: M&M Industries, Inc.
316 Corporate Place
Chattanooga, TN 37419

Completed By: Jerry Shaw
Title : Quality Assurance Manager

Glenn H Mann
President

M&M Industries, Inc.

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PACKAGE FILL WEIGHT INFORMATION

Overall package tare weight:	1.75	kg	
Filling Substance weight:	28.25	kg	62.28 lbs. (Approx.)
Package UN weight - Gross:	30	kg	

UN MARKING

UN 1H2/Y30/S/18
U.S.A./M2074

Additional UN Marks covered by this report:

UN 1H2/Y30/S/18
U.S.A./MXXXX

UN 1H2/Y19/S/18
U.S.A./MXXXX

CLOSURE METHOD: PER ATTACHED INSTRUCTIONS

NOTES:

It is the responsibility of the end user to determine authorization for use of the packaging under the Hazardous Materials Regulations.

The use of packaging methods or components other than those documented in this report may render this certification invalid.

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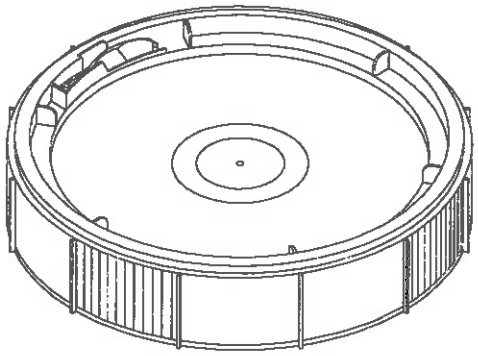
COVER		DRAWING
Description		
Cover Size:	3.5	
Style:	New Generation	
Fittings:	N/A	
Gasket:	3.5 - 6.5 NG - .134"-.166" Dia x 33.992" - 34.488" L Neoprene(Lauren)	
Wall Thickness:	0.090	
Method of Manufacture: Injection Molded		
Material:	High Density Polyethylene	
Mold #	11394	
Tare Weight (kg):	0.47	
Overall Dimensions		
Height:	2.47"	
Top Diameter:	12.27"	
Bottom Diameter:	12.72"	
Thread Dimensions		
Major Diameter:	12.55"	
Minor Diameter:	12.09"	
Markings	M&M Industries, Inc. Chattanooga, TN 37419 SPI "2" HDPE Recycling Symbol Opening and Closing Instructions in multiple languages	

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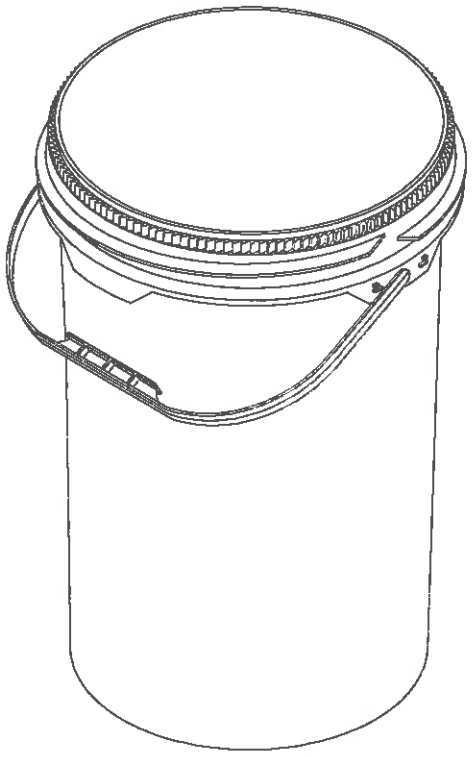
DRUM		DRAWINGS
Description		
Pail Size:	6.5	
Style:	New Generation	
Gasket	NA	
Method of Manufacture: Injection Molded		
Material:	High Density Polyethylene	
Wall Thickness:	0.090	
Mold#	10778C	
Tare Weight (kg):	1.28	
Capacity		
Overflow without cover in place (Water)(kgs):	27.08	
Overall Dimensions		
Height:	18.64"	
Diameter Below Stacking Lug:	11.07"	
Bottom Diameter:	10.36"	
Diameter at Curl (M2 Only):	NA	
Thread Dimensions		
Major Diameter:	12.34"	
Minor Diameter:	11.90"	
Markings	M&M Industries, Inc. Chattanooga, TN 37419 Phoenix, AZ 85043 www.ulitmatepail.com SPI "2" HDPE Recycling Symbol 6.5 U.S. Gals N.R.C. 090 10778C Pat. No. 4,732,288 other Pat Pending Pat. No. 4,967,926 Pat. No. 4,866,162 Pat. No. 6,776,302B2 Pat. D. 504,987S China Pat. ZL03809142.9	U N 1H2/Y30/S/18 U.S.A./M2074 U M 1H2/X11.5/S/18 U.S.A./M2074



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DROP TEST CALCULATIONS

Maximum Fill Capacity with cover in place(water):	25.74	kg	
95% Of Maximum fill Capacity (water):	24.46	kg	
Overall Package Tare Weight:	1.75	kg	
Actual Filling substance weight:	28.25	kg	62.28 lb.
Package Test Weight:	30	kg	66.14 lb.

1 lb.= 0.4535924kg 1 kg = 2.204622 lb.

Packing Group Allowed (Chemical): Y(PG II&III) Package Test Level: Y(PG II&III)

Gross Mass (UN Mark on pail) 30 kg

DROP TEST						
Sample Size:	6 Samples/3 per orientation					
Test Contents:	Sand Mesh 2-635					
Additional Test Contents:	Vermiculite		13 Bags		Approx. Weight of Add. Contents	2.6 kg
Conditioning:	-18 C (0 F) sample temperature at time of test, min. 24 hr. conditioning.					
Drop Height:	Inches:	48	Meters:	1.2 (PG II)	1 m=3.280840 ft.	
Test Equipment:	Mechanical Drop Tester and thermometer in filled sample (inside freezer)					
Test Standard:	Title 49 CFR; Section 178.603					
Target:	A rigid, non-resilient, flat and horizontal surface.					

Criteria for passing the test for solids:

Any discharge from a closure is slight and ceases immediately after impact with no further leakage; and no rupture is permitted in packaging's for materials in Class 1 which would permit spillage of loose explosive substances or articles from the outer packaging.

DROP TEST SET-UP AND RESULTS		
Drop Orientation	**Sample**	**Results**
Diagonal Top Chime	1	Pass
Diagonal Top Chime	2	Pass
Diagonal Top Chime	3	Pass
Flat on Side	1	Pass
Flat on Side	2	Pass
Flat on Side	3	Pass

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STACKING & STACKING STABILITY TEST CALCULATIONS/RESULTS

Stack Test Minimum Load Calculation

Number of packages in a 3m High Stack (118/ Nesting Height (NH)-1)

(118	/	NH)	=	#	-	-1	=	#3m HS
118	/	18.20	=	6.49	-	1	=	5.49

Stack Test Load Calculation (Individual Package)

Gross Mass	X	#3m HS	=	Load	
30	X	5.49	=	164.70	kg
				Appox.	363.10 lbs.

Actual Weight Placed on Pails: 447.5 lbs 202.98 kgs

TEST INFORMATION

Stack Test

Test contents:	Sand mesh size 2-635		
Additional test contents:	Vermiculite	13 bags	Approx. Weight of Add. Contents 2.6 kg
Conditioning:	Standard room temperature/RH		
Equipment:	Dead load weight/Guided load fixture		
Test Duration:	24 hours		
Test Standard:	Title 49 CFR; Section 178.606		

Criteria for passing the Stack Test

No test sample may leak or show any deterioration which could adversely affect transportation safety or any distortion likely to reduce its strength, or cause instability In stacks of packages.

STACK TEST RESULTS

SAMPLE #	START TIME	DURATION	END TIME	RESULTS
1	1:00 PM	24 hours	1:00 PM	Pass
2	1:00 PM	24 hours	1:00 PM	Pass
3	1:00 PM	24 hours	1:00 PM	Pass

STACK STABILITY RESULTS

RESULTS	CRITERIA FOR PASSING THE TEST
Pass	·In guided load tests, stacking stability must be assessed after test completion. ·Two filled packaging's of the same type must be placed on the test sample ·The stacked packages must maintain their position for 1 hour.
	For stack stability, M&M places the filled samples one on top of the other. The bottom sample is rotated to the top until all three samples have been subjected to stacking stability for one hour each

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Additional Drops (If REQUIRED for Variation 5)

Criteria for passing the test for solids

Any discharge from a closure is slight and ceases immediately after impact with no further leakage; and no rupture is permitted in packaging's for materials in Class 1 which would permit spillage of loose explosive substances or articles from the outer packaging.

Description:

Sample	Drop Orientation	Results
1	Diagonal Top Chime	
2	Diagonal Top Chime	
3	Diagonal Top Chime	

Description:

Sample	Drop Orientation	Results
1	Diagonal Top Chime	
2	Diagonal Top Chime	
3	Diagonal Top Chime	

Description:

Sample	Drop Orientation	Results
1	Diagonal Top Chime	
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Sample	Drop Orientation	Results
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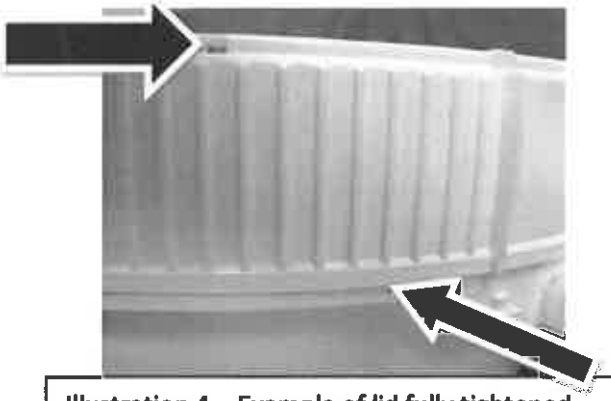

Illustration 4 – Example of lid fully tightened with the window to the left of the mark on pail, non gasketed lid.

2.0, 2.5, 3.5, 5.0, 5.9 and 6.5 gallon Gasketed lid: (Marked MM on lid):

To Close: Seat lid on top of pail (Marked MM on bottom of pail). Rotate lid clockwise until the small window by the trigger (see Ill. 1) is located to the left of the UN mark (see Ill.3) on the side of the pail and continue rotating until the lid is fully tightened (see Ill.5). **Inspect lid after application to confirm it is properly seated.**

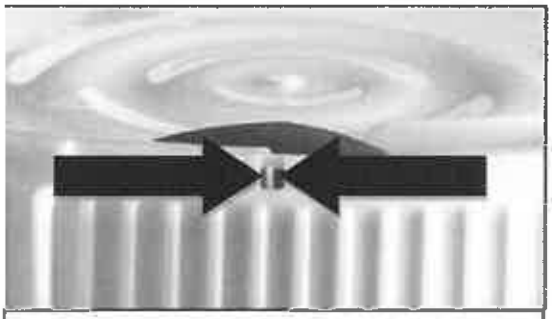

Illustration 1

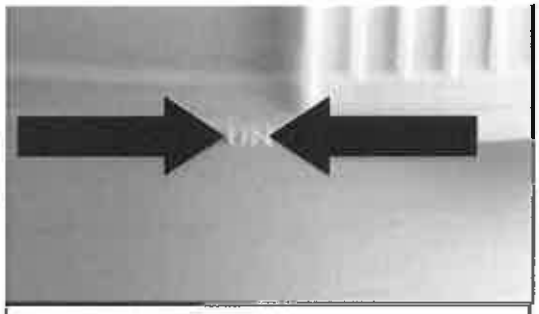

Illustration 2