

UN SOLIDS TEST REPORT

2.5 Lite Latch Pail with Non-Gasketed Cover

Test Type: Periodic Retest

Additional Package Designs Covered by this report:

2.0 Lite Latch Pail with Non-Gasketed Cover

Test Report Number: LL-25-07

Completion Date: 4/16/2020

Test Facility/Packaging Manufacturer

Test Facility: M&M Industries
316 Corporate Place
Chattanooga, TN 37119

Packaging Manufacturer: M&M Industries
316 Corporate Place
Chattanooga, TN 37119

Completed By: *Terry Jker*
Title : Quality Assurance Manager

Gerry H. Morris
President

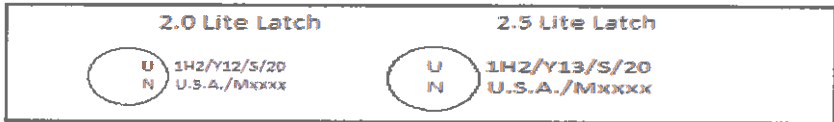
PACKAGE FILL WEIGHT INFORMATION

Overall package tare weight:	<u>0.83</u>	kg	
Filling Substance weight:	<u>12.17</u>	kg	<u>26.83</u> lbs. (Approx.)
Package UN weight - Gross:	<u>13</u>	kg	

UN MARKING



Additional UN Marks covered by this report:

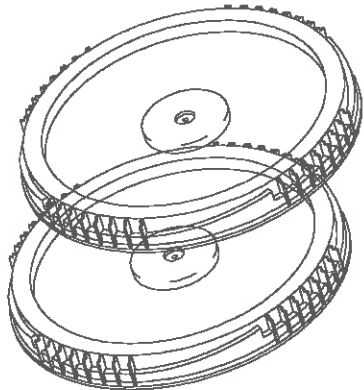


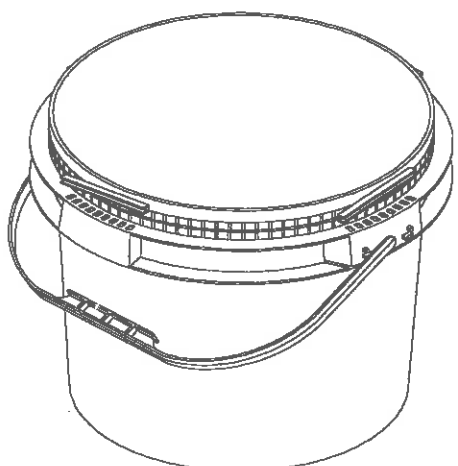
CLOSURE METHOD: PER ATTACHED INSTRUCTIONS

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.

COVER		DRAWING
Description		
Cover Size:	2.0-2.5	
Style:	Lite Latch	
Fittings:	N/A	
Gasket:	N/A	
Wall Thickness:	0.080	
Method of Manufacture: Injection Molded		
Material:	High Density Polyethylene	
Mold #	14728	
Tare Weight (kg):	0.25	
Overall Dimensions		
Height:	1.25"	
Top Diameter:	10.96"	
Bottom Diameter:	11.52"	
Thread Dimensions		
Major Diameter:	11.29"	
Minor Diameter:	10.82"	
Markings	M&M Industries, Inc. www.mmpail.com	
	SPI "2" HDPE Recycling Symbol	
	Open/Closing in Multiple Languages	

DRUM		DRAWINGS
Description		
Pail Size:	2.5	
Style:	Lite Latch	
Gasket	NA	
Method of Manufacture: Injection Molded		
Material:	High Density Polyethylene	
Wall Thickness:	0.070	
Mold#	12681	
Tare Weight (kg):	0.58	
Capacity		
Overflow without cover in place (Water)(kgs):	11.5	
Overall Dimensions		
Height:	9.58"	
Diameter Below Stacking Lug:	10.42"	
Bottom Diameter:	9.41"	
Diameter at Curl (M2 Only):	N/A	
Thread Dimensions		
Major Diameter:	11.07"	
Minor Diameter:	10.69"	
Markings	M&M Industries, Inc. Chattanooga, TN 37419 Phoenix, AZ 85043 www.ulitmatepail.com	
	SPI "2" HDPE Recycling Symbol 2.5 U.S. GALS N.R.C. .070 U. S. and Foreign Patents Pending Patent # D659,333 <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; flex-direction: column; align-items: center; justify-content: center; margin-right: 10px;"> U N </div> <div style="text-align: left;"> <p>1H2/Y13/S/20</p> <p>U.S.A./M2074</p> </div> </div>	

DROP TEST CALCULATIONS

Maximum Fill Capacity with cover in place(water):	10.38	kg	
95% Of Maximum fill Capacity (water):	9.86	kg	
Overall Package Tare Weight:	0.83	kg	
Actual Filling substance weight:	12.17	kg	26.83 lb.
Package Test Weight:	13	kg	28.66 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) 13 kg

DROP TEST			
Sample Size:	6 Samples/3 per orientation		
Test Contents:	Sand Mesh 2-635		
Additional Test Contents:	Vermiculite	5 Bags	Approx. Weight of Add. Contents 1KG
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

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	/	9.10	=	12.98	-	1	= 11.98
Stack Test Load Calculation (Individual Package)							
		Gross Mass	X	#3m HS	=	Load	
		13	X	11.98	=	155.74	kg
						Approx.	343.34 lbs.
Actual Weight Placed on Pails: <u>400</u> lbs <u>181.43</u> kgs							

TEST INFORMATION

Stack Test			
Test contents:	Sand mesh size 2-635		
Additional test contents:	Vermiculite	5 bags	Approx. Weight of Add. Contents 1KG
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	1AM	24 hours	1AM	Pass
2	1AM	24 hours	1AM	Pass
3	1AM	24 hours	1AM	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

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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Description:

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

M&M INDUSTRIES, INC.

MANUFACTURER'S NOTIFICATION FOR M & M INDUSTRIES, INC. UN/DOT PACKAGING FOR HAZARDOUS SOLIDS

At M&M Industries, we understand your goal to safely transport your valuable products along roads and highways. You want to provide your customers with value while keeping their trust. While we are legally bound to provide you with the following information, M&M Industries also wants you to know we value your endeavor and want to help you reach your goal, every day.

Under the U.S. Department of Transportation's Title 49CFR it is the Shipper's Responsibility to determine that the packaging or container is an authorized packaging, including all part 173 requirements. The selected packaging must be properly assembled for transportation in accordance with the manufacturer's notification. Please do all testing and research necessary to ensure that you have selected the proper M & M Industries container for use with your product.

To meet UN/DOT Standards, this package must be properly closed for shipment. At the time of transfer, the packaging does not meet the UN standard because it is disassembled. Only when assembled as specified in the closing instructions below, and using the components described herein, is this packaging certified to meet the UN standard. Failure to follow the closing instructions or substituting package components with components other than those identified in the following paragraph will render the UN/DOT Certification invalid.

A copy of the manufacturer's notification, including closing instructions, must be made available for inspection by a representative of the Department of Transportation upon request for at least 90 days once the package is offered to the initial carrier for transportation in commerce, as of this time (June 2013). However, M&M Industries recommends that you retain these documents for a minimum of 365 days after the package is offered for shipment. The current record retention requirements are subject to change and are found in 49CFR 173.22(a)(4), <http://www.ecfr.gov>

M&M Industries takes superb pride in our Quality Assurance program and systems. However, even with our very best efforts, fittings on covers / pails can become damaged or shift during transportation or storage after leaving our facility. M&M Industries

recommends that fillers/offerors take all steps deemed necessary to check the fittings on each pail / cover, to meet your quality standards. An example of this is a screw cap on a cover that may vibrate or back off during transportation. The offeror of a hazardous material may be open to liability if they do not take the necessary precautions. Should you have any questions, please contact customer service at **(800) 331-5305**.

THESE CLOSING INSTRUCTIONS REMAIN IN EFFECT UNTIL FURTHER NOTICE.

CLOSING INSTRUCTIONS FOR:

Lite Latch ® Containers

Identification of Packaging: This packaging type is identified by:

Gallon Size	Lite Latch Pail mold numbers	Corresponding Lite Latch Lid mold numbers	Lid diameter (ref only, measured at base of lid)
0.6 gallon	05LLPA	05LLCA	6.91"
1.0 gallon	12583, 12588, 08LLPB	12584, 12589, 08LLCB	8.44"
1.25 gallon	10LLPB	12584, 12589, 08LLCB	8.44"
2.0 gallon	12610, 12611	12608, 12609	11.56'
2.5 Gallon	12681	12608, 12609	11.56"
3.0 Gallon	12428, 12429	11554, 11947, 12294, 12295, 12430, 12431, 12607, 12678, 12679, 12688, 13103, 13151, 14721	12.84"
3.5 Gallon	11552, 11945, 12384, 12534	11554, 11947, 12294, 12295, 12430, 12431, 12607, 12678, 12679, 12688, 13103, 13151, 14721	12.84"
5.0 Gallon	11553, 11946, 12427, 14716	11554, 11947, 12294, 12295, 12430, 12431, 12607, 12678, 12679, 12688, 13103, 13151, 14721	12.84"
6.5 Gallon	11999, 12000, 12385, 12533	11554, 11947, 12294, 12295, 12430, 12431, 12607, 12678, 12679, 12688, 13103, 13151, 14721	12.84"
7.7 Gallon	14718	14719	15.08"

10.7 Gallon	14715	14719	15.08"
12.0 Gallon	14714, 15260	14720, 15261	15.82"

UN Markings for Lite Latch ® Containers:

An appropriate UN marking must be maintained for each M&M Industries container design. The UN markings for M&M Industries Lite Latch ® containers are listed below.

Container Size	UN Rating
0.6 Gallon Lite Latch	1H2/Y4/S
1.0 Gallon Lite Latch	1H2/Y6/S
1.25 Gallon Lite Latch	1H2/Y6/S
2.0 Gallon Lite Latch	1H2/Y12/S
2.5 Gallon Lite Latch	1H2/Y13/S
3.0 Gallon Lite Latch	1H2/Y19/S
3.5 Gallon Lite Latch	1H2/Y19/S
5.0 Gallon Lite Latch	1H2/Y25/S
6.5 Gallon Lite Latch	1H2/Y30/S
7.7 Gallon Lite Latch	1H2/Y41/S
10.7 Gallon Lite Latch	1H2/Y48/S
12.0 Gallon Lite Latch	1H2/Y53/S

NOTE: Lite Latch ® containers are UN certified for solids only, using NONGASKETED lids.

In accordance with the U.S. Department of Transportation's Title 49CFR, Section 178.2, manufacturers of U.N. Standard/DOT Specification packages are required to notify in writing each person to whom that packaging is transferred of all requirements in this part not met at the time of transfer, and with information specifying the type(s) and dimensions of the closings, including gaskets and any other components needed to ensure that the packaging is capable of successfully passing the applicable performance tests. This information must include any procedures to be followed, including closing instructions for inner packaging and receptacles, to effectively assemble and close the packaging for the purpose of preventing leakage in transportation.

Specifically, the following items pertain to the Lite Latch ® containers:

- Lite Latch ® containers are certified to the UN/DOT performance-oriented packaging standards and are marked with the appropriate UN markings on the container.
- The Lite Latch ® pail must always be used with the correct Lite Latch ® lid in order to meet the UN/DOT performance-oriented packaging standards.
- Lite Latch ® containers are not UN certified for liquids.

CLOSING INSTRUCTIONS FOR SOLIDS:

Packaging Components required:

- Appropriately marked UN/DOT certified M & M Industries pail
- Matching lid size with trigger attached, non-gasketed

All sizes, NON-GASKETED lid:

To close, seat lid on top of pail. Rotate lid clockwise until the line on the lid above the trigger is located to meet the mark on the pail or to the left of the mark on the side of the pail (see Ill 1). Continue rotating until the lid is fully tightened with the trigger post fully engaged in the open widow. **Inspect lid after application to confirm it is properly seated.**

Illustration 1 – Line on lid will meet or be to the left of the



line on pail

when lid is fully tightened.

Revision History:

Original issue – September 11, 2014

Revised- 5/16/18 added 10.7 Gallon Lite Latch to Instructions

Revised 6/18/18 added 12.0 Gallon Lite Latch to Instructions, added all other Lite Latch parts that were not on the instructions.

Revised 8/31/18 added 7.7 Lite Latch to instructions.

Revised 10/25/19 added .6, 1.25, Lite Latch to instructions. Added all other Lite Latch parts that were not on the instructions. Revised UN rating for 2.5 Lite Latch Pail.