



Dustless Blaster

DB3000 USERS MANUAL

(800) 727-5707

www.DustlessBlasting.com

USERS MANUAL



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MSDS

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International Distributors are Responsible
for Translation of the Manual.

Please Read and Understand manual fully
prior to operating any machinery.

IMPORTANT

(Pertinent to blast machines)

WARNING

Before operating any abrasive blast cleaning equipment READ ALL operating and maintenance instructions. Personal protective equipment is REQUIRED when using this type of equipment. Operator MUST be equipped with heavy canvas or leather gloves, aprons, and arm protectors. Safety shoes and hearing protection MUST be worn when required. NIOSH approved air fed respirators (helmets) furnished with at least Grade D breathing air MUST be used. for protection against dust inhalation. Air MUST be filtered and monitored for Carbon Monoxide.

DANGER

Use of Abrasive cleaning equipment with silica sands may produce a heavy concentration of silica dust. Breathing this dust can produce "Silicosis", a permanent lung disease. Depending upon the object to be cleaned, blasting, even with non-silica abrasives, may release hazardous dust particles into the air that can cause permanent lung damage. Failure to use NIOSH approved air fed respirator (helmet) may cause SERIOUS lung DAMAGE. This warning, as to the proper use of an approved respirator (helmet), applies not only to the operator, but extends to all those working in or around the blasting area, such as pot tenders, painters, supervisors, etc.

CAUTION

Blast cleaning equipment and components are subjected to wear and deterioration.

- Keep your equipment in good operable condition.
- MAINTAIN nozzle control at all times during operation.
- INSPECT machine, nozzles, hoses, and couplings.
- WIRE all kwik-fit hose couplings together.
- Inspect, clean, or replace helmet lens and filters frequently.
- Ground equipment to AVOID electrical shock.
- DO NOT operate any machine without thorough knowledge of machine operation.

Carefully READ the INSTALLATION, OPERATING, AND MAINTENANCE directions supplied with the machine from the factory. If you do not have a copy, please contact your employer (supervisor) or MMLJ Inc.

IMPORTANTE

(Relativo a todas maquinas)

ADVERTENCIA

Antes de operar cualquiera de los equipos de limpieza con chorro abrasivo, LEA TODOS las instrucciones de operacion y mantenimiento. ES OBLIGATORIO usar equipo protector personal al manejar este tipo de equipos. El Operador DEBE. estar equipado con guantes, delantales y protectores de brazos de cuero o lona pesada. DEBEN usarse zapatos de seguridad y proteccion para los oidos cuando asi se exija. Los respiradores (cascos) alimentados por aire, aprobados por NIOSH y que esten previstos de por 10 menos aire respirable de Grado D, DEBEN ser usados como proteccion contra la inhalacion de polvo. El aire DEBE ser filtrado y controlado para detectar monoxido de carbono.

PELIGRO

Es posible que el uso de los equipos de limpieza por abrasion con arenas silíceas provoque una concentracion pesada de polvo silíceo. Este polvo, al ser respirado, puede producir "silicosis", que es una enfermedad pulmonar permanente. Dependiendo del objeto que va a limpiarse, es posible que la limpieza a chorro, aun con abrasivos no silíceos, provoque el escape de particulas de polvo peligrosas en el aire que pueden causar dano pulmonar permanente. Si no se usan los respiradores (cascos) alimentados por aire, aprobados por NIOSH, puede provocarse un GRAVE DANO a los pulmones. Esta advertencia sobre el uso adecuado de un respirador (casco) aprobado no solo se aplica al operador sino que comprende a todos aquellos que trabajan en el area de limpieza a chorro, o al rededor de la misma, como por ejemplo los que vigilan los recipientes, los pintores, supervisores, etc.

PRECAUCION

El equipo de limpieza a chorro y sus componentes estan sujetos a desgaste y deterioro.

- Mantenga su equipo en buenas condiciones de operacion.
- MANTENGA el control de la boquilla en todo momento durante la operacion.
- INSPECCIONE la maquina, las boquillas, las mangueras y las uniones.
- ALAMBRE juntas todas las uniones de la manguera de rapido ajuste.
- Inspeccione, limpie o reemplace los lentes y filtros del casco frecuentemente.
- Conecte el equipo a tierra para EVITAR un shock electrico.
- NO opere ninguna maquina sin tener un detallado conocimiento de la operacion de la misma.

LEA cuidadosamente las instrucciones de INSTALACION, OPERACION Y MANTENIMIENTO que vienen incluidas de fabrica con la maquina. Si no tiene una copia, solicite comunicarse con su empleador (supervisor) o con MMLJ Inc.

Installation and Operating Instructions

Read carefully before operating.



DB-3000

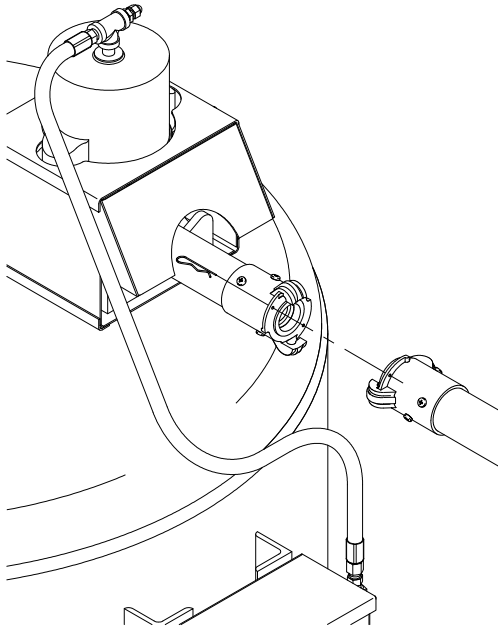
Operating Instructions



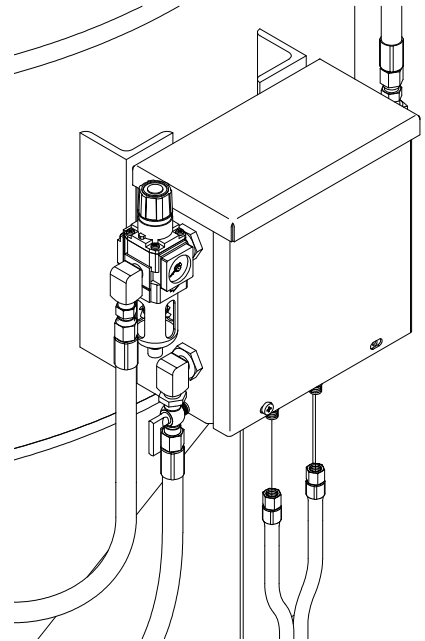
This system will mix clean water, Holdtight 102 and abrasive together. The **DB3000** is designed to hold:

- 150 gallons of clean water
- 210 oz of rust inhibitor
- 20 Cubic Feet of Abrasive, mesh size approx. 50-70
1500 lbs if using Crushed Glass

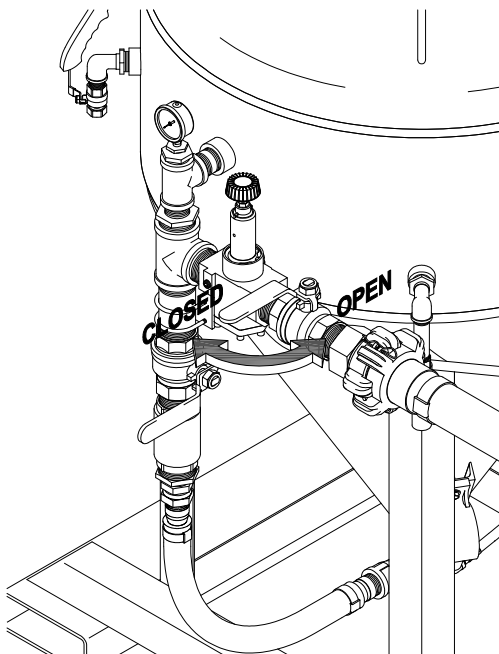
1. Connect 100' Blast Hose to the coupling on top of the machine.



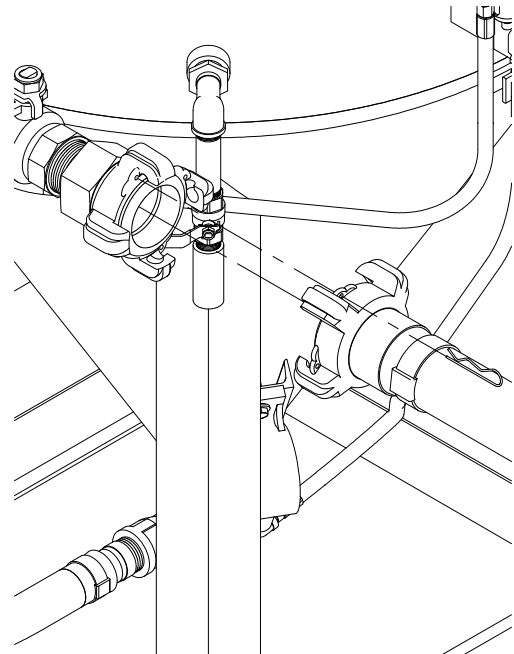
2. Connect red and green air lines to their respective colors on the control box.



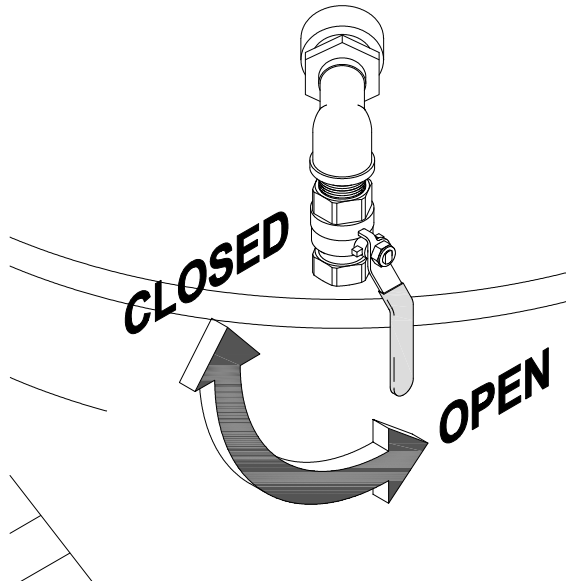
3. Close the popup gasket valve.



4. Connect Compressor Hose



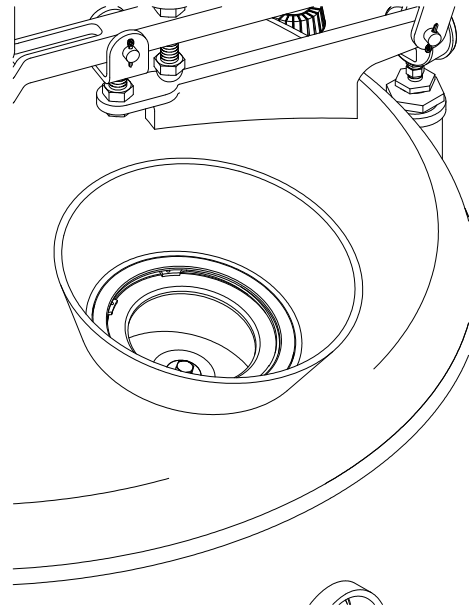
5. Fill machine with water until it pours through overflow. Close overflow.



6. Pour in 1500 lbs of abrasive.

7. Pour in 210 oz of rust inhibitor

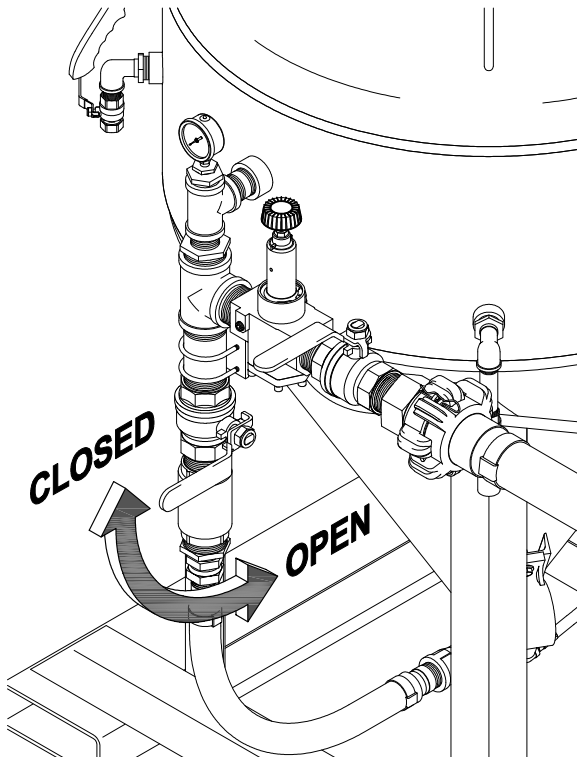
8. Open popup gasket valve to close popup.



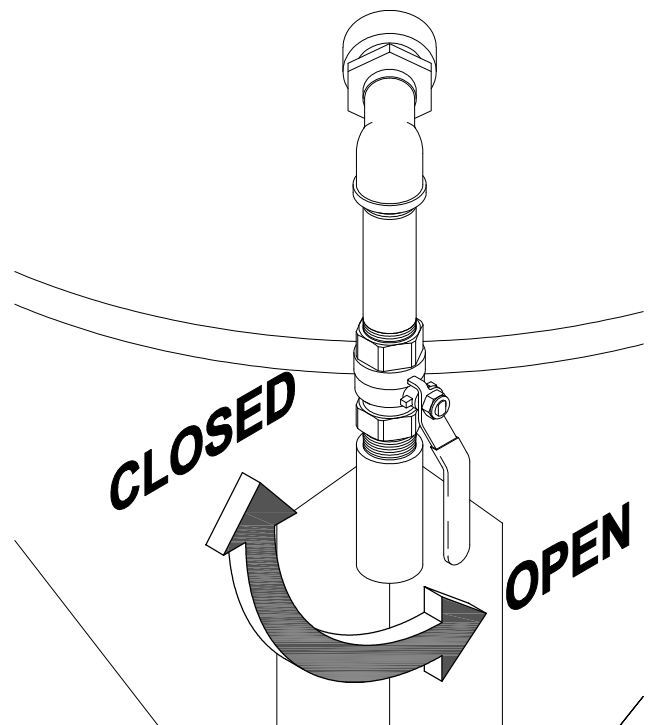
To Blast



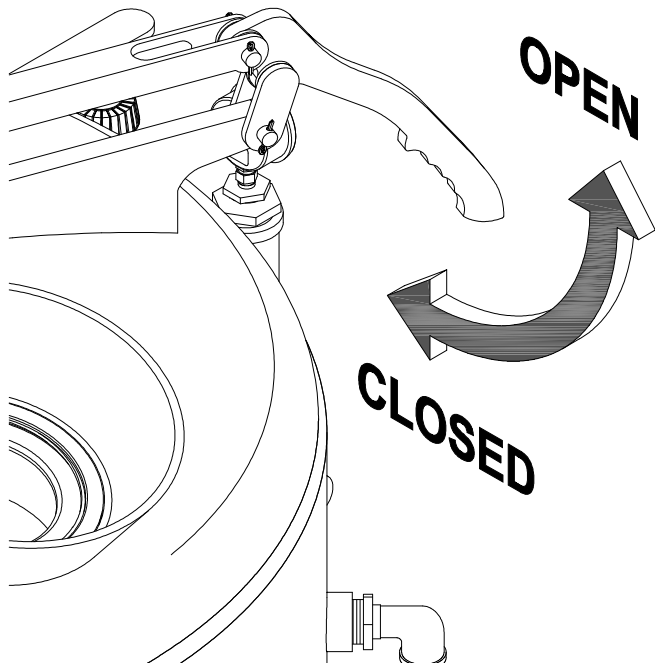
9. Air Inlet should be open



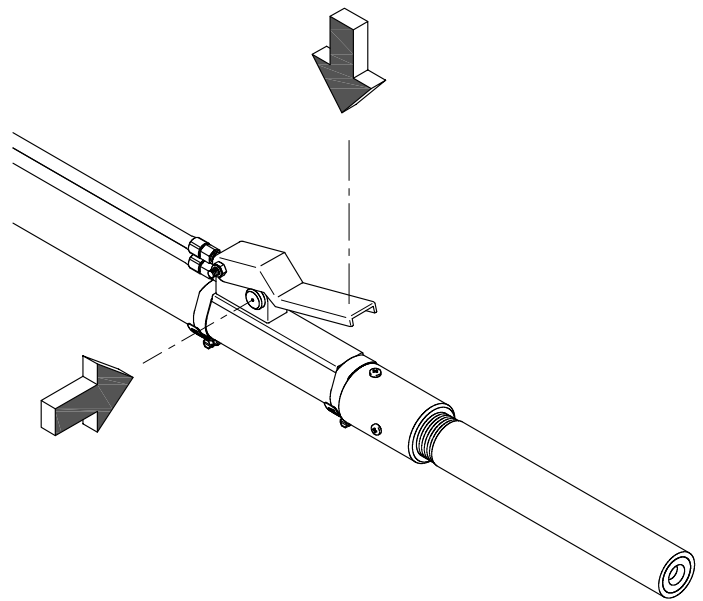
10. Blow Down Valve should be closed



11. Open Abrasive Lever to approximately 1/2"



12. Depress Deadman



To stop blasting, let go of deadman. To shut down, close air inlet valve, open blow down valve.

Carefully READ the INSTALLATION, OPERATING, and MAINTENANCE directions supplied with the machine from the factory. If you do not have a copy, please contact your employer (supervisor) or MMLJ (800) 727-5707, (713) 869-2227, or email m@mmlj.com.



Dustless Blasting 5711 Schurmier Rd. Houston, TX 77048 (800) 727-5707 toll free (713) 868-8041 fax
www.dustlessblasting.com

Maintenance Instructions

Read carefully before operating.

Maintenance:

If leaving unit for extended period of time blast water out of machine

OR

- Fully depressurize machine
- Remove 2 bolts from bottom of machine
- Remove 2 “ears” from bottom
- Remove air inlet jet (looks like a pilgrim hat)
- Remove gasket
- Push casting and air hose out of the way
- Flush out inside of equipment with water

Once media and water are out of machine, reverse procedure:

- Put gasket on air inlet jet
- Insert air inlet jet and gasket
- Put casting up to bottom of machine
- Use ears and bolts to secure casting

It is the responsibility of the owner / operator to install a pressure relief valve.

Every 15 hours rotate pinch hose and perform a physical inspection. Replace pinch hose when physical inspection reveals “soft spots” or weakness in hose. How to replace:

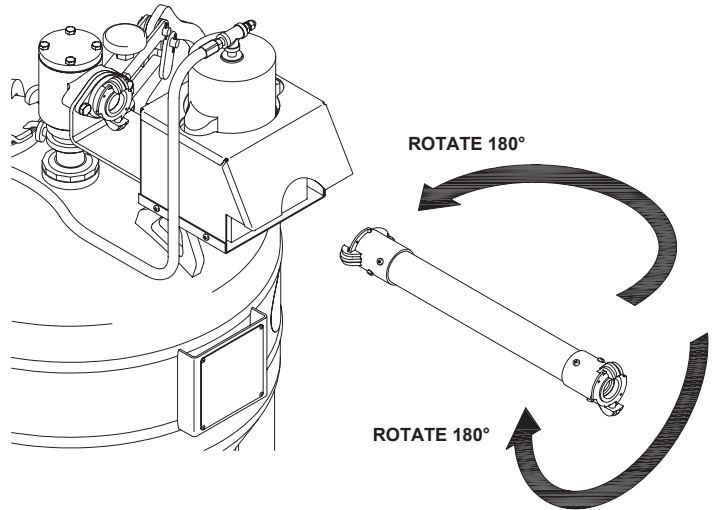
- Remove pinch hose
- Remove 4 screws from each coupling
- Put couplings on new hose
- Screw 4 screws into each coupling
- Replace pinch hose into pinch valve

Visually and physically inspect blast hoses for any weak spots. Replace when necessary. Please call the manufacturer directly with any additional maintenance questions at 1-800-727-5707 or email tech@mmlj.com



Pinch Hose Replacement Guide

Every 10 hours of blasting, we recommend rotating the pinch hose. At this time a visual inspection should be performed to insure integrity. Look at and feel it carefully for signs of wear, softness, or bulges. You want to replace your pinch hose **before** it fails. After rotating it 4 times (which should be after 40 hours of use) we recommend replacement. The hose can be positioned four ways. You can rotate the entire hose, reversing the ends, and you can just flip the hose over. Try to flip it into all four positions, not letting it repeat positions during it's 40 hour life. In other words, after 10 hours, turn the hose over. 10 hours later, rotate the entire hose, reversing the ends. 10 Hours later, turn it over again. 10 hours after that, you should take it out and replace it. The pinch hose is inexpensive and 4 are provided. The instructions below will explain how to swap the couplings onto the new pinch hose.



To remove brass coupling from old pinch hose:

Lock hose in vice and remove screws using a phillips head screwdriver or drill.

Unscrew brass coupling from hose turning counter-clockwise. You may need a bar or rod to do this.

To attach brass coupling to new pinch hose:

Lock hose in vice, making sure an adequate length of hose is left protruding.

Wrap the end of the hose in several layers of friction tape, a little beyond the point the brass will cover.

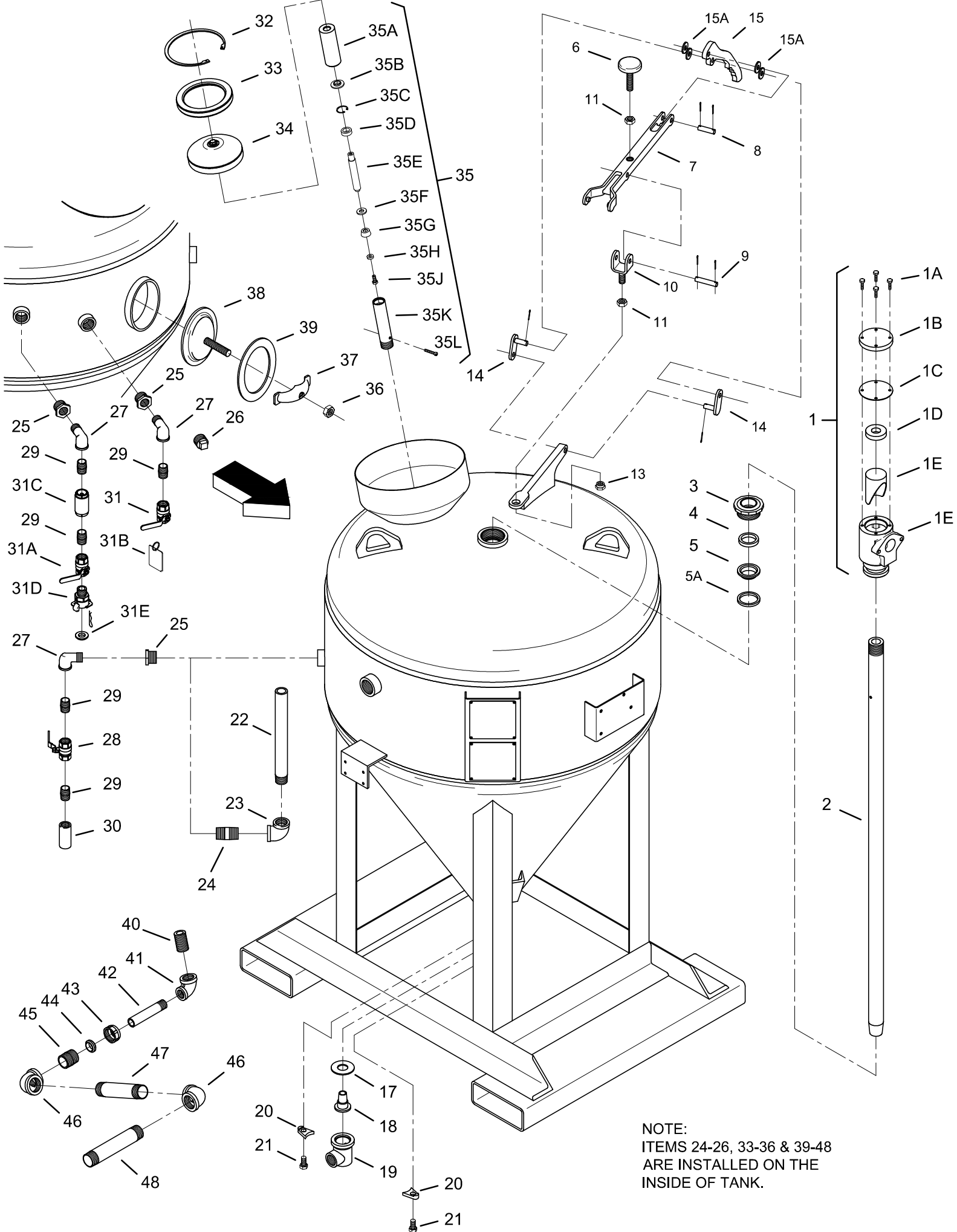
Place coupling over friction tape and hose, screwing clockwise until hose end pushes against inside brass ridge of coupling. You may need a bar or rod to get it tight.

Wrap screws with Teflon tape and screw into designated holes until tight.

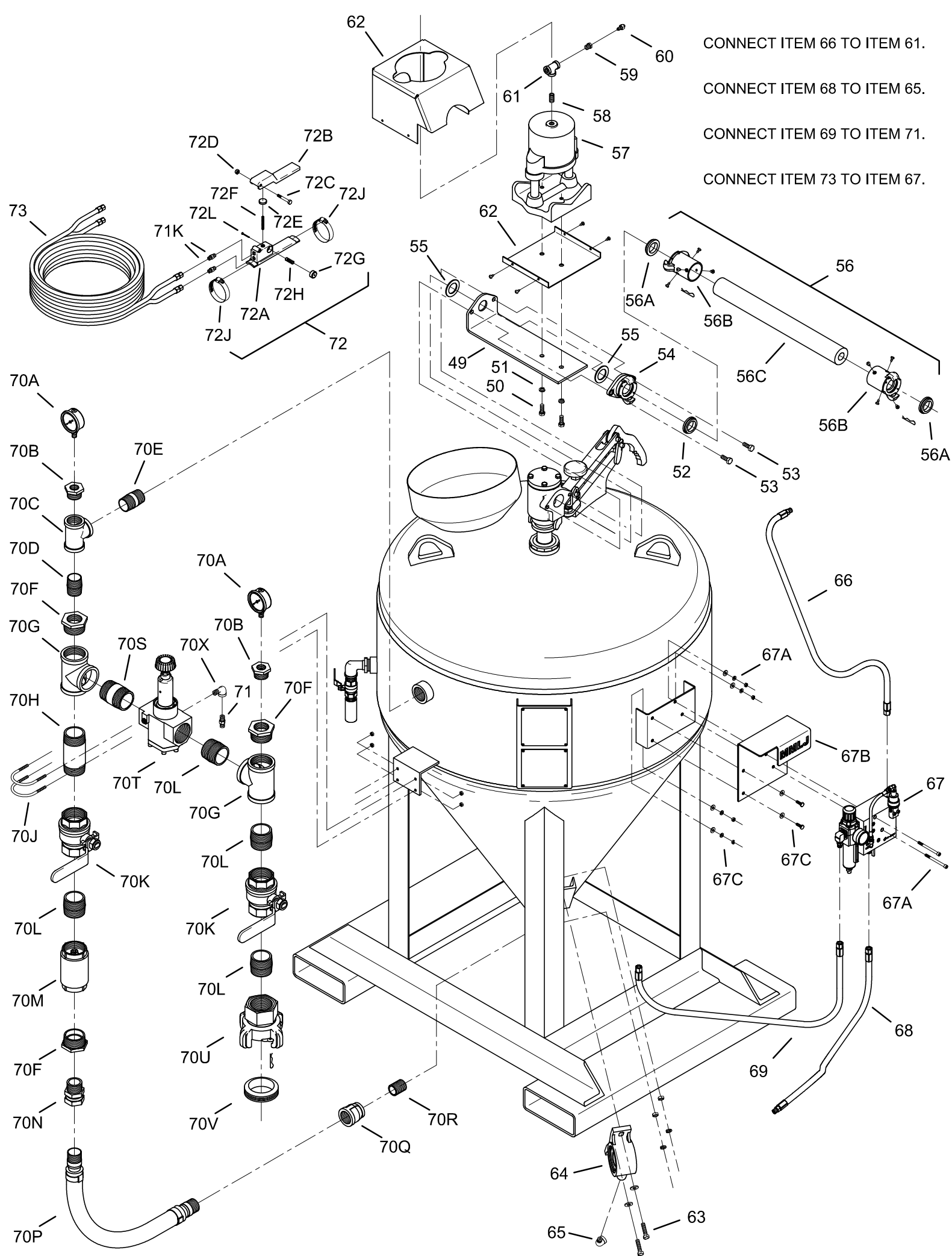
Please follow these instructions carefully. MMLJ Inc. will not be held responsible for injury due to pinch hose failure. If you need to order new pinch hoses, or if you have any questions please call us at 800-727-5707.

800-727-5707

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NOTE:
ITEMS 24-26, 33-36 & 39-48
ARE INSTALLED ON THE
INSIDE OF TANK.



DB-1500 & DB-3000 Pneumatic Pinch Valve w/Control Manifold
134719/001 (1500) - 134704/001 (3000)

Item No.	Description	Part No.	Stock No.	Qty.
1	Outlet Elbow Assembly Complete	M-17	72974/001	1
1A	Outlet Elbow Cap Bolts (4)	M-17-D	82563/001	1
1B	Outlet Elbow Cap	M-17-C	131054/001	1
1C	Outlet Elbow Cap Gasket	M-17-G	131227/001	1
1D	Outlet Elbow Insert Gasket	M-23-G	131147/001	1
1E	Outlet Elbow Insert	M-23	73602/001	1
1F	Outlet Elbow Body	M-17-B	80789/001	1
2	52" Outlet Pipe (DB-1500)		134708/001	1
2	74" Outlet Pipe (DB-3000)		134703/001	1
3	Packing Gland Nut	M-5-1	131102/001	1
4	Gasket	M-13	131226/001	1
5	Gasket	M-5-G	131225/001	1
5A	Seal (manufactured after 5/15/13)	M-6-S	131226/002	1
6	Rocker Arm Adjusting Screw	AB-8	73464/001	1
7	Rocker Arm (long)	B-3-1L	73480/003	1
8	Abrasive Lever Clevis Pin w/ Cotter Pins	AB-11-S	131070/001	1
9	Pedestal Clevis Pin w/ Cotter Pins	AB-12-S	131069/001	1
10	Rocker Arm Hinge Yoke	AB-75	131113/001	1
11	Rocker Arm Yoke/Rocker Arm Adjusting Screw Locking Nut	AB-75-C	22926/001	2
12	Rocker Arm Acorn Nut (5/8"-11)	AB-8-N	134687/002	1
13	Rocker Arm Hinge Yoke Adjusting Nut	AB-75-E	131094/001	1
14	Connecting Link w/ Cotter Pin	AB-10	131133/001	2
15	Abrasive Control Lever	AB-9	73500/001	1
16	Abrasive Control Lever Washer		FBA	4
17	Air Inlet Body Gasket	AB-1-G	131228/001	1
18	Air Inlet Nozzle (5/8")	SB-1-NHD	134356/002	1
19	Air Inlet Body	ABHD-1	73478/001	1
20	Air Inlet Body Lug	AB-47	131231/001	2
21	Air Inlet Body Lug Bolts (2)	AB-47-B	23879/005	1
22	1" x 12" Nipple TOE (DB-1500)	FG-68	131400/001	1
22	1" x 28" Nipple TOE (DB-3000)		131400/002	1
23	1" Elbow	AB-61-T	131867/001	1
24	1" x 3" Nipple	AB-61-S	131861/001	1
25	1" x 3/4" Bushing - SS	AB-61-A-SS	131860/SS	3
26	1" Plug (stand alone units only)		131619/002	2
27	3/4" 90 Degree Street Elbow - SS		131847/SS	3
28	3/4" Blow-Off Valve (red handle)	AB-61-C-SS	70239/SS	1
29	3/4" Close Nipple	RC-23-SS	131859/SS	5
30	Blow-Off Restrictor	AB-61-R	68967/001	1
31	3/4" Overflow Valve (blue handle)		133762/SS	1
31A	3/4" Fill Valve (red handle)	AB-61-C-SS	70239/SS	1
31B	Safety Tag	FGM-DP	131416/001	1
31C	3/4" Check Valve		133051/001	1
31D	3/4" Crowfoot		132172/001	1
31E	Crowfoot Gasket	M-G-2	73850/001	1
32	Fill Plug Seat Ring Snap Ring	M-27-C	131580/001	1
33	Fill Plug Seat Ring	M-27-B1	131027/001	1
34	Fill Plug Assembly	M-19	73606/001	1
35	Pop-up Assembly	M-19-AL	68811/001	1
35A	Pop-up Boot	M-19-A	131234/001	1
35B	Pop-up Boot Washer	M-19-B	131637/001	1
35C	Pop-up Piston Snap Ring	M-19-L	68809/001	1
35D	Pop-up Piston Guide	M-19-K	131038/001	1
35E	Pop-up Piston Stem	M-19-C	131028/001	1

35F	Pop-up Piston Cup Washer	M-19-D	131039/001	1
35G	Pop-up Piston Cup	M-19-E	131232/001	1
35H	Pop-up Piston Cup Disk	M-19-F	131036/001	1
35J	Pop-up Cylinder Bolt	M-19-G	131235/001	1
35K	Pop-up Cylinder	M-19-H	131035/001	1
35L	Pop-up Cylinder Screw	M-19-N	68810/001	1
36	Handway Nut	FM-66-N	43625/001	1
37	Handway Cross Bar	FM-66-C	74439/001	1
38	Handway cover	FM-66-P	73604/001	1
39	Handway Gasket	FM-66-G	73605/001	1
40	1"x2" Adjustment Nipple	FM-19-P	131132/001	1
41	1"x3/4" Reducing Elbow	FM-19-R	131842/001	1
42	3/4"x4" Nipple T.O.E.	FM-19-S	131892/001	1
43	Moody Nut	FM-19-T	131592/001	1
44	Moody Nut Gasket	FM-19-G	131593/001	1
45	1-1/4" SCH 40 Close Nipple	FM-19-V	131870/002	1
46	1-1/4" Elbow		131855/001	2
47	1-1/4" X 6 1/2" Nipple (DB-1500)		73749/002	1
47	1-1/4" X 12" Nipple (DB-3000)		131835/002	1
48	1-1/4" X 9" Nipple		134517/001	1
49	Pinch Valve Plate		134611/001	1
50	Pinch Valve Mounting Bolts (2)			1
51	Pinch Valve Mounting Lock Washers (2)			1
52	KF Series Coupling Gasket	KFG	131148/001	1
53	Elbow Adapter Bolts (2)	KF-17-B	23858/001	1
54	Elbow Adapter, w/ Gasket	KF-17	80790/001	1
55	Elbow Adapter Flat Gasket	KF-17-G	131149/001	1
56	Short Blast Hose Assembly	AB-125	72840/004	1
56A	KF Series Coupling Gasket	KFG	131148/001	2
56B	Hose Coupling w/ Screws	KF-5	80838/001	2
56C	1-1/4" X 2' Blast Hose, Uncoupled		72840/001	1
57	Pinch Valve		74290/001	1
58	1/4" Close Nipple		77094/001	1
59	Brass Bushing	DRC-3-B	73815/001	1
60	Button Bleeder	BB-1S	69953/001	1
61	1/4" Tee	RC-19	131865/001	1
62	Pinch Valve Safety Cover (w/ screws)		134720/001	1
63	Vibrator Bolt, Washer, Lock Washer & Nut			2
64	Vibrator		133811/001	1
65	1/4" 90 Degree Street Elbow	RC-16	73813/001	1
66	3/8" Air Hose Assembly (Pinch Valve) (DB-1500)		134798/002	1
66	3/8" Air Hose Assembly (Pinch Valve) (DB-3000)		134798/012	1
67	Pneumatic Control Manifold System		MMLJNC14	1
67A	Control Manifold Mounting Bolts, Nuts, Washers & Lock Washers		FBA	2
67B	Control Manifold Cover		133808/001	1
67C	Control Manifold Cover Mounting Bolts, Nuts, Washers & Lock Washers		FBA	2
68	3/8" Air Hose Assembly (Vibrator) (DB-1500)		134798/008	1
68	3/8" Air Hose Assembly (Vibrator) (DB-3000)		134798/010	1
69	3/8" Air Hose Assembly (Air Inlet) (DB-1500)		134798/009	1
69	3/8" Air Hose Assembly (Air Inlet) (DB-3000)		134798/011	1
70	Air Inlet Assembly		133021/005	1
70A	Gauge	SB-30-G	134366/001	2
70B	1-1/4" x 1/4" Bushing - SS		131868/SS	2
70C	1-1/4" Tee -SS	AB-30-IT-SS	131856/SS	1
70D	1-1/4" Close Nipple - SS		131870/SS	1
70E	1-1/4" x 2-1/2" Nipple - SS		131661/SS	1
70F	1-1/4" X 2" Bushing - SS		134801/SS	2
70G	2" Tee -SS		134806/SS	2

70H	2" x 5" Nipple - SS		134805/SS	1
70J	2" U-Bolts w/ Nuts		131461/002	2
70K	2" Ball Valve - SS		133762/SS	2
70L	2" Close Nipple - SS		134803/SS	4
70M	2" Check Valve		73415/001	1
70N	1-1/4" KC Swivel		83900/001	1
70P	1-1/4" Hose Assembly (DB-1500)		133021/005	1
70P	1-1/4" Hose Assembly (DB-3000)		133021/006	1
70Q	1-1/4" x 1" Bell Reducer - SS		131874/SS	1
70R	1" Close Nipple - SS	RC-24-SS	727821/SS	1
70S	2" x 3" Nipple - SS		134802/SS	1
70T	2" Regulator		132055/004	1
70U	2" Crowfoot		74470/001	1
70V	2" Crowfoot Gasket		74908/001	1
70X	1/4" 90 Degree Street Elbow	RC-16	73813/001	1
71	Hose Adapter	RC-18	72828/001	1
72	Dual Line Activator Valve Assembly	DR-3-1	83619/001	1
72A	Activator Valve Body	DR-3-1A	83615/001	1
72B	Activator Lever	SDR-3B	83616/001	1
72C	Hex Head Bolt	SDR-3F	78963/001	1
72D	Hex Head Nut	SDR-3G	78968/001	1
72E	Seat Disc	SDR-3E	82617/001	1
72F	Spring	SDR-3D	84067/001	1
72G	Safety Stop	SDR-3H	83618/001	1
72H	Spring	SDR-3S	84098/001	1
72J	Hose Clamps	RCAV-5	72834/001	2
72K	1/8" Hose Adaptor	DRC-3-A	131609/001	2
72L	Round Head Screw	SDR-3J	27030/001	1
73	Dual Line Remote Control Hose	DRC-3-50	72770/001	1

9/8/2014

REV A

THE NATIONAL BOARD
OF
BOILER & PRESSURE VESSEL INSPECTORS

*Certificate of Authorization
to Register*



This is to certify that

MMLJ, Inc.
5711 Schurmier Road
Houston, Texas 77048

*is authorized to apply the "NB" mark and register boilers,
pressure vessels or other pressure retaining items with the
National Board.*

*The scope of Authorization is limited to items manufactured
in accordance with:*

ASME Designator(s): U, UM

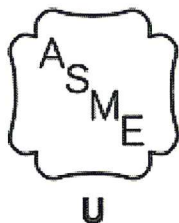
Issue Date: July 23, 2015

*This Certificate of Authorization to Register will remain in
effect as long as the manufacturing organization holds a
valid Certificate of Authorization issued by the American
Society of Mechanical Engineers.*

Executive Director

A handwritten signature in black ink, appearing to read 'D. J. ...'.





CERTIFICATE OF AUTHORIZATION

The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the certification mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with this certification mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:

**MMLJ, Inc.
5711 Schurmier Road
Houston, Texas 77048**

SCOPE:

Manufacture of pressure vessels at the above location only

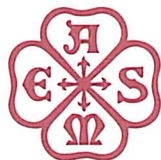
AUTHORIZED: July 23, 2015
EXPIRES: February 28, 2018
CERTIFICATE NUMBER: 23,238

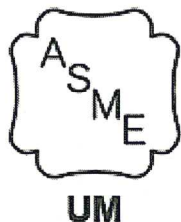
A handwritten signature in black ink, appearing to read 'Bryan A. Eiler'.

Vice President, Conformity Assessment

A handwritten signature in black ink, appearing to read 'Joseph J. Loefer'.

Director, Conformity Assessment





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COMPANY:

**MMLJ, Inc.
5711 Schurmier Road
Houston, Texas 77048**

SCOPE:

Manufacture of miniature pressure vessels at the above location only

AUTHORIZED:

July 23, 2015

EXPIRES:

February 28, 2016

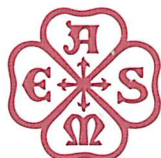
CERTIFICATE NUMBER: 23,239

A handwritten signature in black ink, reading 'Bryan A. Eiler'.

Vice President, Conformity Assessment

A handwritten signature in black ink, reading 'Joseph J. Loefer'.

Director, Conformity Assessment





MATERIAL SAFETY DATA SHEET

Recycled Crushed Glass Blast Media

Section 1a – Identification of Substance

Tradenames: Recycled Crushed Glass Blast Media, CBM-612, CBM-1230, CBM-2040, CBM-3070, CBM-5070, CBM-4070, CBM-70120
Product Uses: Recycled crushed glass for use as blast media.
Revision Date: May 11, 2012

Section 1b – Company Address

VITRO MINERALS, INC.
9126 B Industrial Blvd
Covington, GA 30014
United States

Phone/Fax Numbers

Emergency Phone Number: 678-729-9333
Technical Information: 678-729-9333
Fax Number: 678-729-9336

Section 2 – Composition and Ingredient Information

Ingredients	Formula	Composition	OSHA PEL	ACGIH TLV
Soda-lime glass ⁽¹⁾		>99%	Not Listed ⁽²⁾	Not Listed ⁽²⁾

Notes: (1) The Glass Blast Media are amorphous products derived from the fusion of several inorganic substances mainly silica, sodium oxide and calcia with lesser amounts of alumina, magnesium oxide and potassium oxide. The free oxides are not present and are fully combined in the fused, vitreous silicate. The fused mass is cooled to ambient temperature at a fast rate to prevent crystallization. The subject of this MSDS are sands made by grinding of the fused mass. (2) Exposure to this product may be covered by OSHA inert or nuisance dust limits of 15 mg/m³ for total dust and 5 mg/m³ for respirable portion. (3) Where required, the applicable CAS number is 65997-17-3 for a "Glass Oxide." (4) The lead content of the products is <40 ppm Pb.

Section 3 – Physical/Chemical Properties

Specific Gravity (H ₂ O =1): 2.6	Evaporation Rate: N/A	Appearance/Odor: White Powder / No Odor
Melting (Softening) Point: >800°C	Solubility in Water: Insoluble	Vapor Pressure (mm Hg and Temp): N/A
Boiling Point: N/A	Water Reactive: Not Reactive	Vapor Density (Air = 1): N/A

N/A = Not Applicable

Section 4 – Fire and Explosion Hazard Data

Fire and Explosion Hazard Overview: This material is considered non-flammable and non-combustible.

Auto-Ignition Temperature: N/A

Flash Point and Method Used: N/A

LEL/UEL: N/A

Unusual Fire and Explosion Hazards: None

Special Fire Fighting Procedures: No special procedures required.

Extinguisher Media: No special media required.

N/A = Not Applicable

Section 5 – Stability and Reactivity

Stability: Stable

Conditions to Avoid: None known.

Hazardous Decomposition Products: Unknown and not suspected.

Hazardous Polymerization: Not known to occur.

Reactivity: Material is considered inert in polymer and resin systems. Avoid contact with strong acids, alkalis, reducing agents, and oxidizers.

Section 6 – Health Hazard Identification

Emergency Overview: Not considered hazardous. Stable and non-flammable under normal industrial conditions.

Primary Routes of Entry: Inhalation, ingestion, skin absorption.

Signs and Symptoms of Exposure: Eye, skin, or respiratory tract irritation.

Acute: Dust may irritate eyes, skin, respiratory tract, mucous membranes. Dust hazard should not occur under normal use.

Chronic: None known.

Section 7 – Toxicological Information

Carcinogenicity: The following list indicates whether or not the indicated agency has listed the product as a carcinogen:

NTP, Not listed; IARC, Not listed; OSHA, Not listed.

LD50: Oral (g/kg), Not available; Dermal (g/kg), Not available; Inhalation (ppm, 8hrs), Not available.

Section 8 – First Aid Measures

Medical Conditions Generally Aggravated by Exposure: May aggravate existing pulmonary condition if high dust situation is created. Dusting conditions should not occur under normal use.

Eye Contact: Immediately flush eyes with water to remove dust particles. If irritation develops, seek medical attention.

Skin Contact: Wash skin with soap and water. If irritation develops, seek medical attention.

Inhalation: Immediately remove affected person to fresh air. If irritation develops, seek medical attention.

Ingestion: Rinse mouth out with water. Induce vomiting if significant quantities ingested. Seek medical attention.

Section 9 – Exposure Control and Protective Measures

Respiratory Protection: If airborne dust exposure approaches the TLV or PEL (Section 2) use half-mask or full-face air purifying respirator equipped with NIOSH or MSHA-approved high efficiency filters for protection against pneumoconiosis-producing dust. An airline respirator may be required where dust levels are extremely high.

Protective Gloves: Limit contact with skin. Use rubber or cloth gloves as necessary.

Eye Protection: Wear goggles or face shield as appropriate. Avoid contact lenses.

Ventilation to be Used: Keep dust levels below PEL. Use general and local exhaust ventilation and dust collection systems to keep dust levels within acceptable limits.

Other Protective Clothing and Equipment: None normally required. Wear long sleeves and long pants to reduce skin contact. Use work gloves, goggles and face shield as necessary.

Hygienic Work Practices: Do not allow dust to get into eyes, to be inhaled, to be swallowed, or remain on skin if irritation occurs. Practice good personal hygiene. Wash or shower after use. Launder clothes as normal.

Section 10 – Accidental Release Measures

Steps to be Taken if Material is Accidentally Spilled or Released: Avoid creating airborne dust. Pick up with shovel or mechanical equipment. Wet methods and vacuuming may be used on spills.

Sections 11 & 12 – Disposal and Transportation Considerations

Considered non-hazardous per EPA, RCRA 40CFR, Part 261, 1990. Handle as inert bulk material. Material may be disposed of as a non-hazardous solid waste consistent with state, federal and local disposal regulations. Disposal in a sanitary landfill is usually adequate. Not regulated by the Department of Transportation (DOT).

Section 13 – Handling and Storage

Precautions to be Taken: Keep material dry in storage. No special handling required. Avoid creating airborne dust. Not an electrical conductor.

Other Precautions and/or Special Hazards: None

Section 14 – Ecological Information

Considered to be an inert solid waste, and no special precautions should be taken in case it is released or spilled. These products do not contain, nor are manufactured with, Class I or Class II Ozone-Depleting Chemicals (CFCs) identified in the Clean Air Act Amendment, 1990 List of Ozone Depleting Chemicals.

Section 15 – Additional Regulatory Information

United States: (a) EPA Toxic Substances Control Act (TSCA): The applicable CAS number is 65997-17-3, corresponding to “Glass Oxide.” All the raw material components of the glass oxide are in the TSCA Inventory. (b) EPA SARA Title III: Vitro considers these products exempt as they do not meet its health or physical hazards definitions nor contain any SARA 313 chemical ingredients in excess of EPA’s de minimus concentrations. (c) OSHA Hazard Communication Standard: Subject to the applicable requirements of this regulation. (d) Right to Know Law: Per this MSDS revision date, these products are not known to contain chemical ingredients listed by the Pennsylvania, New Jersey or Massachusetts Right to Know Law in excess of amounts requiring reporting on such substances’ MSDS or labels. (e) California Proposition 65: No ingredient is listed. (f) Clean Air Act: No ingredient is listed. (g) FDA Classification: Glass Blast Media are glass products which fall under Code of Federal Regulations 21 CFR 177 Indirect Food Additives - Polymers, subsections 2410 and 2420.

Canada: These products are exempt from Canadian Environmental Protection Act (CEPA) reporting on the Domestic Substances Lists. They are also exempt from Workplace Hazardous Materials Information System (WHMIS) labeling & MSDS requirements.

European Economic Committee (EEC) Labeling Classification: These products do not meet the classification for a “dangerous substance” according to 67/548/EEC and 97/69/EC. The composition has been incorporated in the EINECS under CAS number 65997-17-3 as a glass oxide.

Japan: Chemical Substances Control Law: Exempt from this law.

Section 16 – Other Information

HMIS and NFPA Hazard Rating:	Category	HMIS	NFPA
	Acute Health (0-4)	0	0
	Flammability (0-4)	0	0
	Reactivity (0-4)	0	0

HMIS Personal Protection: To be supplied by user depending upon use.

NFPA Unusual Hazards: None.

For further technical information on Recycled Glass Blast Media products contact your Vitro sales representative or the telephone number listed in Section 1b.

NOTE: Information herein is based on data considered to be accurate as of date prepared. No warranty or representation, express or implied, is made as to the accuracy or completeness of this data and safety information. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

HoldTight Solutions Inc. / HOLDTIGHT®102**MATERIAL SAFETY DATA SHEET (MSDS)****ISO 11014-1 format (6 page ver.)**

NOTE: Read and understand Material Safety Data Sheet (MSDS) before handling or disposing of product. Six (6) pages total.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**MATERIAL IDENTITY**Product Name: **HoldTight®102 salt remover / flash rust inhibitor**Chemical Name and/or Family or Description: **Proprietary Formulated Amine Compound**Manufacturer's Name and Address: **HoldTight Solutions Inc.
P.O. 27907, Houston, TX 77227.7907**Telephone Numbers: **713.266.9339 800.319.8802**
FAX / email **713.266.1022 info@holdtight.com****NON-HAZARDOUS
NON-TOXIC
BIO-DEGRADABLE
NON-FLAMMABLE****2. COMPOSITION / INFORMATION ON INGREDIENTS**

The criteria for listing components in the composition section are as follows: Chronic Hazards (Carcinogenic, Teratogenic, Mutagenic, Neurotoxic, and Sensitizers) are listed when present at 0.01% or greater: Acute Hazards are listed when present at 1.0% or greater and Non-Hazardous components are listed when present at 3.0% or greater.

Product and/or Component(s) Carcinogenic according to OSHA IARC NTP OTHER NONE
— — — — X**Composition**

<u>Chemical/Common Name</u>	<u>Range in %</u>
Proprietary Formulated Amine Compound	25.00
Non- Hazardous Materials	75.00

3. HAZARD IDENTIFICATION**EMERGENCY OVERVIEW**Appearance and Odor: **clear liquid, mild ammonia odor****WARNING STATEMENT****CAUTION: may cause eye irritation****HMIS**

Health:	1	Reactivity:	0
Flammability:	0	Special:	-

NFPA

Health:	1	Reactivity:	0
Flammability:	0	Special:	-

POTENTIAL HEALTH EFFECTS

	EYE	SKIN	INHALATION	INGESTION
Primary Route of Exposure	<u>X</u>	<u>X</u>	<u>X</u>	—

Effects of OverexposureAcute: Eyes: **May cause irritation, experienced as mild discomfort, and seen as slight redness of the eye.**Skin: **No adverse effects expected from absorption of material through the skin. Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling.**Inhalation: **Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness.**Ingestion: **May, in very large quantities, cause abdominal discomfort, nausea, and diarrhea.**

CERCLA SECTION 102(a) Hazardous Substance

<u>Component</u>	<u>CAS No.</u>	<u>Percent</u>	<u>RQ (lbs)</u>
NONE			

Title III Section 311 Hazard Categorization

<u>Acute</u>	<u>Chronic</u>	<u>Fire</u>	<u>Pressure</u>	<u>Reactive</u>	<u>Not Applicable</u>
X	-	-	-	-	-

Title III Section 313 Toxic Chemicals

<u>Component</u>	<u>CAS No.</u>	<u>Percent</u>
NONE		

B. WHMIS CLASSIFICATION

Not regulated

C. MICHIGAN CRITICAL MATERIALS

No critical materials present.

D. CALIFORNIA PROPOSITION 65

This product does not contain materials which the State of California has found to cause cancer, birth defects, or other reproductive harm

16. OTHER INFORMATION

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT FOR PURPOSE OF HAZARD COMMUNICATION AS PART OF HOLDTIGHT INC., PRODUCT SAFETY PROGRAM. IT IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OR THE INFORMATION CONTAINED HEREIN. DATA SHEETS ARE AVAILABLE FOR ALL HOLDTIGHT PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL HOLDTIGHT® PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE AND YOU ARE ENCOURAGED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

TO DETERMINE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, USER SHOULD CONSULT HIS LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. HOLDTIGHT® DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

Date: 04/01/01 Revised, Supersedes 07/14/99
Inquiries regarding MSDS should be directed to:

HoldTight Solutions Inc.
P.O. Box 27907
Houston, TX 77227-7907 Phone 713.266.9339 / 800.319.8802 Fax 713.266.1022 / 800.728.8861
email: msds@holdtight.com

PLEASE SEE BELOW FOR SHIPPING / PRODUCT LABEL

17. SHIPPING / PRODUCT LABEL

HoldTight®102*Read and understand Material Safety Data Sheet before handling or disposing of product.*INSTRUCTIONS FOR USE

In humid ambient conditions (i.e. 40°F and 90% relative humidity) with significant surface contamination, a 50:1 ratio (50 parts water to 1 part HoldTight®102) up to 100:1, depending on type of equipment and application procedure used (see manufacturer's detailed instructions) will normally protect the surface from flash rust for 48 hours or more -- providing the surface remains dry -- and will remove virtually all loosely adhered surface contaminants, such as chlorides, sulfates, and other debris.

In a dry ambient setting a 100:1 mixture may be adequate. Note, however, that higher levels of surface contamination (e.g., chlorides and other soluble salts) will require higher concentrations of HoldTight®102 at a given level of ambient air humidity

When humidity is minimal, and the surfaces are not highly contaminated, HoldTight®102 has been effective in dilutions up to 250:1.

For use in any water or wet abrasive blast system with a 50 (water):1 (additive) injection system, pour HoldTight®102 undiluted into the inhibitor reservoir. Positively interlocked injector pumps (PIIP) will automatically provide a 50:1 ratio in the blasting water. To achieve a 100:1 mixture in the blast water in such systems, simply dilute HoldTight®102 with water 1:1 prior to pouring into the inhibitor reservoir. If no injection system is available, dilute HoldTight®102 with water as required prior to use.

Non-potable water (e.g., "plant" water) or any water with high levels of salt contamination will interfere with the performance of HoldTight®102 by re-contaminating the surface, causing flash rusting.

WARNING STATEMENT

CAUTION: May cause eye irritation.

PRECAUTIONARY MEASURES

Avoid contact with eyes. Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.

FIRST AID

INGESTION: None considered necessary

INHALATION: If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or symptoms persist.

EYE CONTACT: Flush eyes with water several times. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention if irritation persists.

SKIN CONTACT: Wash skin with soap and water. Get medical attention if skin irritation develops or persists.

FIRE: In case of fire, use water, foam, dry chemical or CO₂.

CHEMICAL/COMMON NAME

Proprietary Formulated Amine Compound
Non-Hazardous Materials

RANGE IN %

25.00
75.00

HMIS

Health: 1 Reactivity: 0
Flammability: 0 Special: -

NFPA

Health: 1 Reactivity: 0
Flammability: 0 Special: -

DOT Proper Shipping Name: N.A., NOT REGULATED

DOT Hazardous Class: N.A.

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues of other materials stored in them. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

Manufacturer: HoldTight Solutions Inc., P.O. Box 27907, Houston, Texas 77227.7907
phone: 713.266.9339 / 800.319.8802 fax: 713.266.1022 / 800.728.8861
email info@holdtight.com web: www.holdtight.com

**Sensitization
Properties:**

This product is not expected to be a human sensitizer based on animal data.

Chronic:

No adverse effects anticipated.

Medical Conditions**Aggravated****By Exposure:**

Repeated skin contact may aggravate an existing dermatitis (skin condition).

Repeated overexposure may aggravate existing kidney disease.

Other Remarks:

None

4. FIRST AID MEASURES**Eyes:**

Flush eyes with water several times. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention if irritation persists.

Skin:

Wash skin with soap and water. Get medical attention if skin irritation develops or persists.

Ingestion:

None considered necessary.

Inhalation:

If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or symptoms persist.

Other Instructions:

None

5. FIRE-FIGHTING MEASURES**Ignition Temp. Degrees F.:**

N.D.

Flash Point Degrees F. (Method):

>400°F (PMCC)

Flammable Limits (%):Lower: N.D. Upper: N.D.**Recommended Fire Extinguishing Agents and Special Procedures:**

According to NFPA Guide, use water spray, dry chemical, foam, or carbon dioxide. Water or foam may cause frothing. Use water to cool fire-exposed containers. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for person attempting to stop the leak.

Unusual or Explosive Hazards:

None

6. ACCIDENTAL RELEASE MEASURES**Procedures in Case of Accidental Release, Breakage or Leakage:**

Ventilate area to accelerate evaporation. Contain spill if possible. Avoid contact with skin, eyes or clothing. Low concentrations of the active ingredient can be degraded in a biological wastewater treatment system. Aquatic toxicity data indicates a very low order or negligible toxicity to aquatic organisms. It is, therefore, feasible to dispose of in a sanitary sewer with large amounts of water.

7. HANDLING AND STORAGE

Precautions to be taken in handling and storage: Minimum feasible handling temperatures should be maintained. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided. Protect from freezing temperatures. Also see HMIS label on container

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Protective Equipment (Type)****Eye/Face Protection:**

Chemical - type goggles or face shield optional, but recommended to prevent eye contact.

Skin Protection:

Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

Respiratory Protection: Pursuant to standard industrial safety procedures, if vapor, mist or dust is generated in a contained space without fresh air ventilation, use respirator approved by MSHA or NIOSH as appropriate. See below for applicable permissible concentrations.

Ventilation: Adequate to meet occupational exposure limits. General exhaust ventilation is acceptable. (See below)

Exposure Limit For Product: 25 mg/m³ (TWA - ACGIH) undiluted; 1250 – 6250 mg/ m³ diluted 50:1 to 250:1 per instructions for use

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor:	clear liquid, light, pleasant odor
Boiling Point (Degrees F.):	212°F
Percent VOC:	N.D.
Evaporation Rate (n-butyl acetate=1)	8.5
Specific Gravity (H ₂ O=1):	1.0304
pH:	10.2
Solubility in Water:	100%
Vapor Pressure:	10.3 mmHg @: 100°F
Viscosity:	2 cSt @ 77°F
Freezing Point:	23°F
Flash Point	>400°F (Method PMCC)
Weight	8.6 lbs/ gal; 3.9kg / gal

10. STABILITY AND REACTIVITY

This Material Reacts Violently With: (If others is checked below, see comments for details)

Air	Water	Heat	Strong Oxidizers	Others	None of These
-	-	-	-	Y	-

Comments: This material reacts with acids.

Products Evolved When Subjected to Heat or Combustion:

NONE

OCCUR

DO NOT OCCUR

Hazardous Polymerizations:

-

X

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Median Lethal Dose (LD50 LC50) (Species)

Oral:	> 10.0 - 25.0 g/kg (rat); slightly toxic
Inhalation:	N.D.
Dermal:	> 50 g/kg (rabbit); practically non-toxic

Irritation Index, Estimation of Irritation (Species)

Skin:	believed to be 0.5-3.0/8.0 (rabbit); slightly irritating
Eyes:	believed to be 15-25/100 (rabbit); slightly irritating
Sensitization:	Negative (guinea pig)
Other:	Prolonged and repeated ingestion of compounds of active ingredient has caused kidney damage in laboratory animals.

12. ECOLOGICAL INFORMATION

The following information is compiled from various tests and studies on the proprietary compound in **HoldTight® 102**.

- Aquatic toxicity data indicates negligible toxicity to aquatic organisms.

- The data show the compound is relatively non-toxic to bacteria, fathead minnows, and Daphnia magna.
- The "octanol water partition coefficient," ($\log P_{ow}$) = -1.75 (Verschueren, 1983), indicates that the compound would not likely bioaccumulate in aquatic organisms.
- Biodegradation data show the compound biodegrades and will not persist in the environment. Increased rate of biodegradation by acclimation is expected in biological treatment systems that regularly process wastewater containing the compound.
- Environmental toxicity data indicate that optimal conditions will allow low level amounts of this compound to biodegrade (slowly); the residual (if any) will not have an appreciable impact on the environment.
- Due to negligible toxicity to aquatic life, product may be disposed of in sanitary sewers.
- This formulated compound *is not* a "Priority pollutant," under Sec. 307 of the Clean Water Act (CWA) *nor* is it a "Hazardous Substance" under Sec. 311 of that Act. And it *is not* regulated as a "Water Priority Chemical" under Title III, Sec. 313 of the Superfund Amendment and Reauthorization Act (SARA).

Contact manufacturer if additional ecological information is needed.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous. However, when used as directed by manufacturer the product may be disposed of in a sanitary sewer system.

REMARKS: Biodegradation data indicates the product biodegrades and will not persist in the environment. An increased rate of biodegradation would be expected via acclimation in biological treatment systems that receive this product on a regular basis in wastewater.

14. TRANSPORT INFORMATION

TRANSPORTATION

DOT: PROPER SHIPPING NAME: NOT REGULATED, US freight classification 55 for establishing freight rates

HAZARD CLASS: N.A.
IDENTIFICATION NUMBER: N.A.
LABEL REQUIRED: None

IMDG: PROPER SHIPPING NAME: N.D.

IATA: PROPER SHIPPING NAME: N.D.

TDG: PROPER SHIPPING NAME: NOT REGULATED

HAZARD CLASS: N.A.
IDENTIFICATION NUMBER: N.A.
LABEL REQUIRED: N.A.

15. REGULATORY INFORMATION

A. Toxic Substances Control Act (TSCA):

This product and/or its components are listed on the TSCA Inventory

B.. SARA TITLE III

Title III Section 302/304 Extremely Hazardous Substance:

<u>Component</u>	<u>CAS No.</u>	<u>Percent</u>	<u>RQ (lbs)</u>	<u>TPQ (lbs)</u>
NONE				

Blast Pot Warranty

**MMLJ, Inc. ®
Warranty**

Limited Lifetime

This warranty applies only to products manufactured or distributed by MMLJ, Inc. under the Dustless Blasting™ brand name. This product is backed by a lifetime warranty, excluding only expendable parts such as paint, finish, and accessories., which are covered by manufacturer other than MMLJ, Inc. This warranty extends only to you, the original purchaser. It is not transferable to anyone who subsequently purchases the product from you.

MMLJ, Inc. warrants that the product you have purchased is free from defects in materials or workmanship under normal use during the warranty period. Your sales receipt, showing the date of purchase for this product, is your proof of the date of purchase. This warranty becomes valid only if the product is assembled/installed according to the instructions/directions included with the product.

During the warranty period, MMLJ will repair or replace (at MMLJ's option) the product if it becomes defective or otherwise fails to conform to this Warranty under normal use. In repairing the product, MMLJ may replace defective part with new, or at the option of MMLJ, serviceable used parts that are equivalent to new parts in performance. MMLJ reserves the right to change manufacturers of any part to cover any existing warranty. This extends to items normally covered by a manufacturer other than MMLJ, Inc. used on this product within the first calendar year of purchase.

This warranty does not cover shipping charges; export taxes, custom duties and taxes, or any other charges associated with transportation of the parts or products. To obtain warranty service, you must contact MMLJ customer service representative at our phone number located in this manual. Any parts determined to be defective must be brought to the attention of MMLJ, Inc. within 6 months of delivery of equipment. You must prepay any shipping charges, export taxes, custom duty taxes, or any other charges associated with transportation of the parts or product. In addition, you are responsible for insuring any parts or product shipped or returned. You assume the risk of loss during the shipment. You must present MMLJ with proof-of-purchase documents (including the date of purchase). Any evidence of alteration, erasure, or forgery of proof-of-purchase documents will be cause to void this warranty.

This Limited/Lifetime Warranty does not extend to any product that has been damaged or rendered defective (a) as a result of accident, misuse, or abuse (b) by the use of parts not manufactured or sold by MMLJ and/or (c) by modification or improper installation of the product. Product on which the serial number has been defaced or removed is not eligible for warranty service. Should any product submitted for warranty service be found ineligible, an estimate of repair cost will be furnished and the repair will be made if requested by you upon MMLJ receipt of payment or acceptable arrangements for payment.

Except, as expressly set forth in this warranty, MMLJ makes no other warranties, expressed or implied. This is the only express warranty applicable to Dustless Blasting™ branded products. MMLJ does not assume, nor authorize anyone to assume for it any other express warranty.

Notes:

Make notes to keep track of when your compressor was serviced, when you last replaced your pinch hose, etc.

[illegible]

