7.3 Technology Safety Data Sheet

Lift Liner™ Systems
Soft Sided Waste Containers
TECHNOLOGY SAFETY DATA SHEET

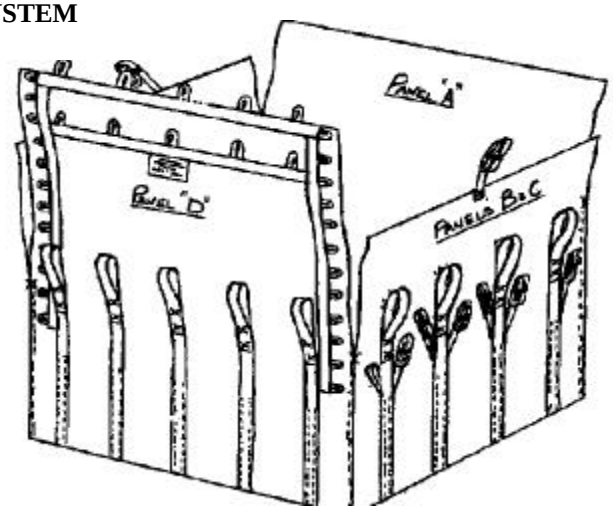
SECTION 1: TECHNOLOGY IDENTITY	
Manufacturer's Name and Address:	**Emergency Contact:**
Transport Plastics, Inc. 190 Transport Dr PO Box 12 Sweetwater, TN 37874	Ken Grumski 1-800-603-8277 (7:30 – 4:30 EST Mon – Sat) 1-724-452-9300
Other Names:	**Information Contact:**
Lift Liner™ MHF Logistics 129 McCarrell Ln Zelienople, PA 16063	Ken Grumski 1-800-603-8277 1-724-452-9300
	Date Prepared:
Tech ID: 2240	8-22-01
	Prepared by:
	Operating Engineers National Hazmat Program

The Transport Plastics Inc. Lift-Liner™ soft-sided waste packaging system includes a 25-mil woven outer polypropylene fabric shell with a 2-mil water resistant coating and a 45-mil double layer polypropylene inner liner. The outer shell is equipped with 18 lifting straps made of 2-inch polyester seat belt webbing material. The containers meet the U.S. Department of Transportation requirements for transport of low specific activity and surface contaminated objects (strong tight rule), subject to the requirements of 49 CFR §173.427, §173.410, and §173.24. The system also includes a loading frame used to support the shell and inner liner during loading and a lifting frame. The lifting frame attaches to the lifting straps for hoisting the container from the loading frame onto a transport vehicle. A small forklift can move the empty loading frame and lifting frame. The empty containers are light and compact enough to move by hand. Each container is 7 X 8 X 5 ft., has a capacity of 260 ft^3, and holds up to 24,000 lbs.

SECTION 3: TECHNOLOGY DIAGRAMS OR PICTURES

TRANSPORTPLASTICS

LIFT LINER™ SYSTEM



88” Lift Liner™ System

Item # LL88 Lift Liner™ 96 x 88 x 60 (Nominal)
Item # IL88-2 Double Layer Inner Liner 96 x 88 x 60 (Nominal)
Model # LP9688 Lifting Frame for 88” Lift Liner™ System (Nominal)
Model # LOD9688 Loading Frame for 88” Lift Liner™ System (Nominal)

Lift Liner™ Specification/Dimensions

Overall size	96” x 88” x 60” (Nominal) +/- 1” all dimensions
Loadable size	96” x 86” x 54” (Nominal) +/- 1” all dimensions
Volume capacity	258 cu. Ft. (Nominal)
Weight empty	42 lbs.
Weight capacity	24,000 lbs.
Lift capacity	24,000 lbs. @ 125% certified lift

Lift Liner™ Construction

Fabric	Woven and coated polypropylene
Lift straps	18 each @ 6,000 lb. tensile test Each woven polyester fabric
Closure top flaps	4 each; 2 full overlapping, 2 centering
Securing straps	20 each 1” poly webbing with Corresponding receiver loops

Inner Liner Dimensions

Overall size	96” x 88” x 60” (Nominal) +/- 1” all dimensions
Volume capacity	258 cu. Ft.
Weight empty	38 lbs.

Inner Liner Construction

Fabric	Double layers of woven and coated Polypropylene fabric
Closure top flaps	4 each; 2 overlapping, 2 centering

Lifting Frame Specifications/Dimensions

Overall size	92” x 82” x 24” (Nominal) +/- 1”
Empty weight	1,240 lbs.
Lifting weight capacity	24,000 lbs @ 125% certified
Design capacity	40,000 lbs. (per DOE-STD-1090 Hoisting and Rigging Devices)
Means to lift	Crane or forklift

Lifting Frame Construction

Frame	All steel per ASTM A-500 (USA/CAN)
Hooks	3 ton carbon steel (USA)

Loading Frame Specifications/Dimensions

Overall size	92” x 82” x 60” ID (Nominal) +/- 1” per wall
Weight empty	960 lbs.

Loading Frame Construction

Frame	3 ½” square tube steel
Wells	10 gal. Steel sheet
Floor	1 ½” square tube steel grid 10 ga. Steel sheet

Wall and floor panels are hinged at the floor for case of Opening and knock down for transporting.

Patented, US Patent Number 6,079,934

SECTION 4: CONTAMINANTS AND MEDIA

The Lift Liner™ System does not create any contaminants or media. Contaminants and media being loaded and stored in the Lift Liner™ System should be identified with site-specific hazard assessments. The system may require the use of respiratory protection for operators of equipment and site workers when contaminated soils are being loaded.

SECTION 5: ASSOCIATED SAFETY HAZARDS

Probability of Occurrence of Hazard:

1. Hazard may be present but not expected over background level
2. Some level of hazard above background level known to be present
3. High hazard potential
4. Potential for imminent danger to life and health

A. ELECTRICAL (LOCKOUT/TAGOUT)	**RISK RATING: N/A**

The Lift Liner™ System does not have electrical components. Equipment such as loaders, forklifts, and cranes will be a part of the process and all traditional methods of lockout/tagout should be followed.

B. FIRE AND EXPLOSION	**RISK RATING: 2**

Liner material will begin to soften at 200°F and will begin to melt at 260°F. Users should be conscious of the type of material being loaded into the liners, following proper loading methods. Users should also be conscious of how the liners are stored when full. Improper loading and storage of the liners under the right conditions may result in combustion.

C. CONFINED SPACE ENTRY	**RISK RATING: 1**

Users should follow manufacturer recommendations and never enter the Lift Liner™.

D. MECHANICAL HAZARDS	**RISK RATING: 3**

Potential pinch points

- Catching foot between frame and round bar
- Trapping hand at the corner of the hinged sides
- Dropping the side panel on foot
- Catching hand in chain during release of corner pins
- Pinch points between straps and bag while lifting

Potential struck by/caught between hazards

- During release of corner pins to allow sides to expand
- Struck by hammer during corner pin removal
- Struck by swinging load

SECTION 5: ASSOCIATED SAFETY HAZARDS CONTINUED	
Probability of Occurrence of Hazard: 1 Hazard may be present but not expected over background level 2 Some level of hazard above background level known to be present 3 High hazard potential 4 Potential for imminent danger to life and health	
E. PRESSURE HAZARDS	**RISK RATING: 3**
Load exerts outward pressure on liners and frame. Any release of this pressure carries some degree of hazard. The frame is capable of releasing pressure two different ways and therefore capable of failing two ways, the first through the pins holding the sides together, and the second being the safety chains holding the sides together when the pins have been removed. Additionally, the liners may fail if they are loaded incorrectly and have been breached.	
F. TRIPPING AND FALLING	**RISK RATING: 3**
• Unfolding and placing bag in frame presents multiple tripping hazards due to numerous straps. • If frame has a side down for loading, the open side presents a potential for slippery walking surface and the gap between the sheet metal and the tube steel that make up the wall frame presents a tripping hazard. • Fall hazards are numerous while loading the liner into the frame. There are no measures in place to ensure safe climbing/stepping surfaces. • After securing the liner, the strap tails present a tripping hazard. • Falling off the frame while arranging the liner bottom in the loading frame.	
G. LADDERS AND PLATFORMS	**RISK RATING: 1**
Ladders are the recommended means of accessing/observing inside the frame. The proper use of ladders will alleviate the hazards associated with climbing on the loading frame.	
H. MOVING VEHICLES	**RISK RATING: 3**
The Lift Liner™ System does not have any moving vehicles but does depend on them. Without moving vehicles to move the loading frame and lift the full liner out of the loading frame the technology does not work. The Lift Liner™ System does not create any new hazards associated with moving vehicles but users should be conscious of the high level of hazard traditionally associated with moving vehicles, especially cranes.	
I. BURIED UTILITIES, DRUMS, AND TANKS	**RISK RATING: N/A**
J. PROTRUDING OBJECTS	**RISK RATING: 1**
Corner pins used to hold the sides protrude approximately 2 inches.	
K. GAS CYLINDERS	**RISK RATING: N/A**
L. TRENCHING AND EXCAVATIONS	**RISK RATING: N/A**

SECTION 5: ASSOCIATED SAFETY HAZARDS CONTINUED	
Probability of Occurrence of Hazard: 1 Hazard may be present but not expected over background level 2 Some level of hazard above background level known to be present 3 High hazard potential 4 Potential for imminent danger to life and health	
M. OVERHEAD LIFTS	**RISK RATING: 2**
Tag lines should be attached to the lifting frame to prevent the load from shifting/spinning. The lifting straps and liner are collectively rated at 24,000 lbs. Breaking strength collectively for all 18 straps is 108,000 lbs.	
N. OVERHEAD HAZARDS	**RISK RATING: 2**
The Lift Liner™ System does not create any new hazards associated with overhead hazards. Users should be conscious of hazards traditionally associated with lifting heavy objects overhead using a crane.	

SECTION 6: ASSOCIATED HEALTH HAZARDS	
Probability of Occurrence of Hazard: 1 Hazard may be present but not expected over background level 2 Some level of hazard above background level known to be present 3 High hazard potential 4 Potential for imminent danger to life and health	
A. INHALATION HAZARD	**RISK RATING: N/A**
The system will be used with contaminated soils that could release dusts. Consequently, the hazards should be evaluated each time the system is used.	
B. SKIN ABSORPTION	**RISK RATING: N/A**
C. HEAT STRESS	**RISK RATING: N/A**
The Lift Liner™ System does not create additional risk for heat stress, only the ambient temperature needs to be considered and the level of PPE being used.	
D. NOISE	**RISK RATING: N/A**
The Lift Liner™ System does not create noise. Users should take into consideration machinery being used with or around the Lift Liner™ System such as the loader and crane.	
E. NON-IONIZING RADIATION	**RISK RATING: N/A**
F. IONIZING RADIATION	**RISK RATING: N/A**
G. COLD STRESS	**RISK RATING: N/A**
The Lift Liner™ System does not create additional risk for cold stress, only the ambient temperature needs to be considered and the level of PPE being used.	

SECTION 6: ASSOCIATED HEALTH HAZARDS CONTINUED	
Probability of Occurrence of Hazard: 1 Hazard may be present but not expected over background level 2 Some level of hazard above background level known to be present 3 High hazard potential 4 Potential for imminent danger to life and health	
H. ERGONOMIC HAZARDS	**RISK RATING: 2**
• Pulling, grabbing, tugging, and tying straps and/or bags • Most work performed was at shoulder-height or above • Weight of the liner (40 lbs) being lifted to shoulder height and over the top rail	
I. OTHER	**RISK RATING: 2**
Following the manufacturer's recommended procedures for loading are paramount. Failure to do so may result in a breach of the liner, overloading, or even combustion.	

SECTION 7: PHASE ANALYSIS
A. CONSTRUCTION/START-UP
• Moving vehicles (forklift) needed for set-up and positioning of loading frame and lifting frame. • Ergonomic hazards associated with overhead lift of 40lb folded bag over and into loading frame. • Slips, trips, or falls from the side of the loading frame or from a ladder when opening the liner inside the loading frame. • If one or all the fours sides are released and laying down users should be aware of pinch points associated with the pins and closing the four sides together.

SECTION 7: PHASE ANALYSIS CONTINUED

B. OPERATION

- Proper loading of the liner per manufacturer recommendations must be followed. Only non-flammable material with sharp protruding objects loaded only after the liner is lined with loose debris.
- Operators should also use caution when loading the bag by not striking the liner or loading frame with the equipment.
- Users should use caution and be aware of ergonomic hazards associated with tying the bag. Numerous belts and ropes must be secured on both the inner and outer liner. These should be secured as tight as possible. Users may be exposed to strains or sprains.
- Only proper and inspected rigging should be used when fastening the lifting frame to the crane.
- Hand signals with a tag line should be used during the lift.
- When calculating the load prior to the pick, crane operators should take into consideration the friction of the bag on the sides of the loading frame.
- In the event the liner is bulging to the point it cannot be easily removed from the loading frame and the pins are removed to release the pressure, users should stand clear of sides keeping clear of the sudden release of energy outward.
- Users should also keep in mind that once the pins are removed the safety chains are now the only things holding the four sides together.

C. MAINTENANCE

- Removing pins and/or safety chains to release sides may create pinch points.
- Users should use proper lifting techniques when lowering or raising the sides to avoid sprains or strains.
- If the sides are lowered, users should be aware of slips, trips, and falls moving in and out of the loading frame via the lowered sides.
- Climbing on the sides of the loading frame or using a ladder when performing maintenance with the sides up and fastened may result in slips, trips, or falls.

SECTION 7: PHASE ANALYSIS CONTINUED

D. DECOMMISSIONING

The Lift Liner™ System does not have any mechanical or electrical components. Decontamination of the technology will only involve those hazards addressed in the maintenance section.

- Removing pins and/or safety chains to release sides may create pinch points.
- Users should use proper lifting techniques when lowering or raising the sides to avoid sprains or strains.
- If the sides are lowered, users should be aware of slips, trips, and falls moving in and out of the loading frame via the lowered sides.
- Climbing on the sides of the loading frame or using a ladder when performing maintenance with the sides up and fastened may result in slips, trips, or falls.

SECTION 8: HEALTH AND SAFETY PLAN REQUIRED ELEMENTS

A. AIR MONITORING

Site-specific requirements will apply

B. WORKER TRAINING

Hoisting and rigging

Training to manufacturer's specifications regarding proper use of the product

Proper lifting techniques/ergonomics

Training specific for support machinery and associated hazards

OSHA Construction Outreach

HAZWOPER

C. EMERGENCY RESPONSE

The Lift Liner™ System does not require additional emergency response other than already dictated by OSHA.

D. MEDICAL SURVEILLANCE

The Lift Liner™ System does not create a need for medical surveillance. Only medical surveillance as a result of site-specific hazards should be implemented.

E. INFORMATIONAL PROGRAM

Standard operating procedures with manufacturer recommendations should be provided to all users. The Lift Liner™ System does not require additional informational programs other than those that should already be in place, namely an effective HAZCOM program addressing the contaminants being loaded into the liners.

SECTION 9: COMMENTS AND SPECIAL CONSIDERATIONS

Proper/selective loading, tying, and handling techniques are crucial to ensuring the safety and health of the workforce involved in this technology.