

TECHNOLOGY SAFETY DATA SHEET

LTC AMERICAS VACUUM BLASTING MACHINE

SECTION 1: TECHNOLOGY IDENTITY

Manufacturer's Name and Address: LTC Americas Inc. 22445 Davis Drive Suite 142 Sterling, VA 20164	Emergency Contact: Bob Miller 800-822-2332
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	Date Prepared: June 25, 1996
Other Names: LTC 1073	Signature of Preparer:

SECTION 2: PROCESS DESCRIPTION

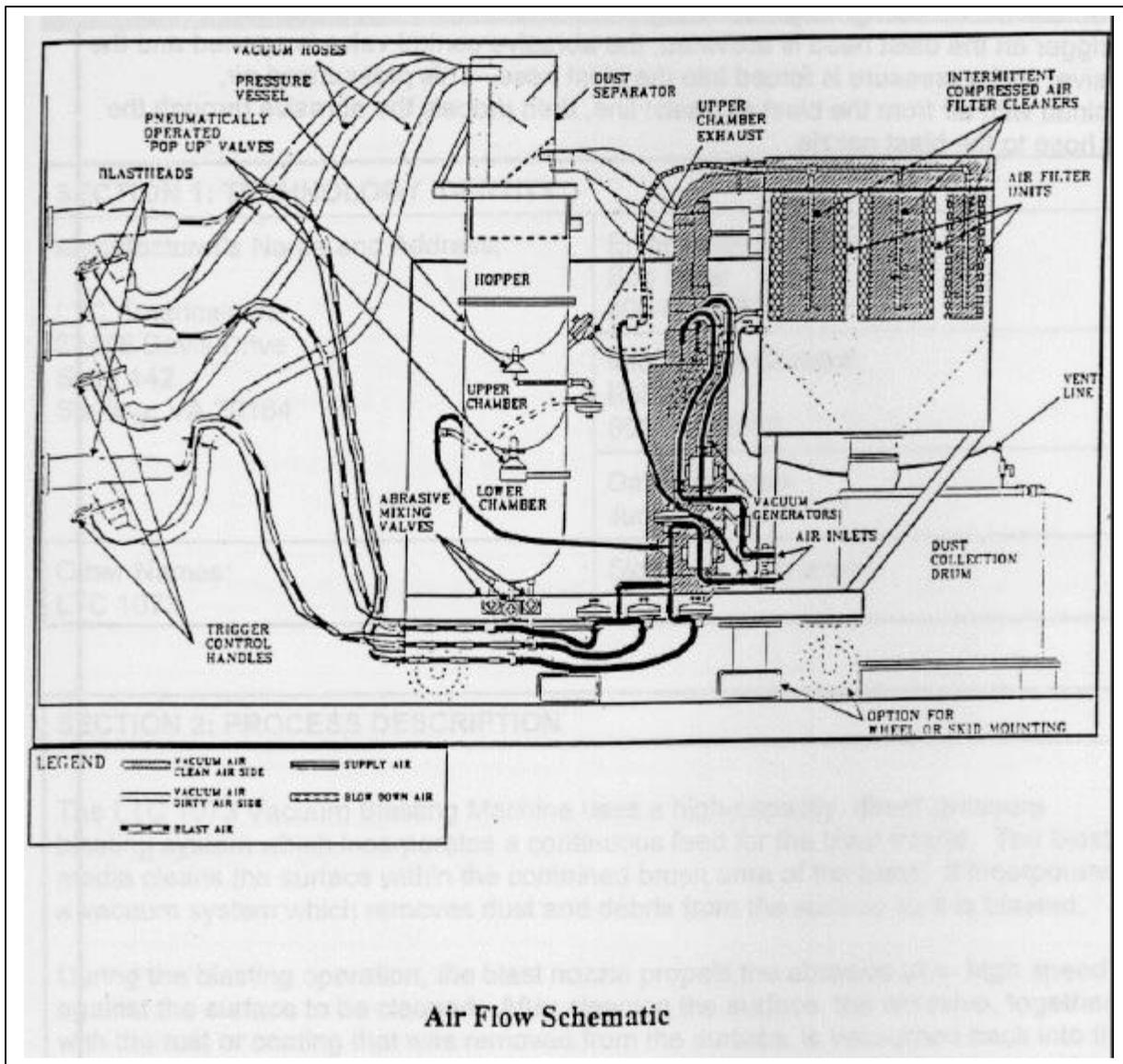
The LTC 1073 Vacuum Blasting Machine uses a high-capacity, direct-pressure blasting system which incorporates a continuous feed for the blast media. The blast media cleans the surface within the contained brush area of the blast. It incorporates a vacuum system which removes dust and debris from the surface as it is blasted.

During the blasting operation, the blast nozzle propels the abrasive at a high speed against the surface to be cleaned. After cleaning the surface, the abrasive, together with the rust or coating that was removed from the surface, is vacuumed back into the machine through the suction hose. The dust separator contains angled steel collision pads, working with the force of gravity, allows any reusable abrasive to fall back into the pressure vessel. The abrasive and dust pass through a fine wire mesh screen that is under the last collision pad. Particles too large to pass through the screen are caught by sieve. Dust is drawn from the dust separator into the filter chamber, the remainder is drawn into the filter. The filters are manually back-flushed to prevent clogging. After back-flushing, dust is dumped from the dust chamber into the dust collection bag or drum by operation of the bellows valve.

SECTION 2: PROCESS DESCRIPTION

The abrasive for blasting is cycled through a dual chamber pressure vessel. When the trigger on the blast head is activated, the abrasive control valve is opened and the abrasive, under pressure is forced into the blast hose. This pressurized air, combined with air from the blast air assist line, then propels the abrasive through the blast hose to the blast nozzle.

SECTION 3: PROCESS DIAGRAM



SECTION 4: CONTAMINANTS AND MEDIA

The technology has the potential to cause concrete dust and associated contaminants to become airborne. Specific contaminants need to be evaluated on a site by site, job by job basis to determine the potential for exposure.

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

Not part of this technology.

B. FIRE AND EXPLOSION

RISK RATING: 1

Technology does not pose this hazard in and of itself but could not be used in an explosive environment due to the potential for sparking.

C. CONFINED SPACE ENTRY

RISK RATING: 1

Not part of this technology unless the specific location where scabbler is being used is a confined space. In this case, confined space procedures would need to be followed.

D. MECHANICAL HAZARDS

RISK RATING: 4

Use of large equipment and hand tools may pose the following: pinch points, struck by, and caught between hazards and fall from above.

E. PRESSURE HAZARDS

RISK RATING: 2

Air lines and vacuum hoses may cause hazards.

F. TRIPPING AND FALLING

RISK RATING: 3

Air lines and vacuum hoses may cause hazards.

SECTION 5: ASSOCIATED SAFETY HAZARDS	
G. LADDERS AND PLATFORMS	RISK RATING: N/A
Not part of this technology.	
H. MOVING VEHICLES	RISK RATING: 3
The presence of multiple pieces of mobile equipment (used to unload and load the technology) in relationship to a small area of operation may pose a significant danger. Sufficient warning devices such as horn, bells, lights and back up alarms should be utilized. Personnel should be trained to work with and around moving equipment.	
I. BURIED UTILITIES, DRUMS, AND TANKS	RISK RATING: N/A
Not part of this technology.	
J. PROTRUDING OBJECTS	RISK RATING: N/A
Not part of this technology.	
K. GAS CYLINDERS	RISK RATING: N/A
Not part of this technology.	
L. TRENCHING AND EXCAVATIONS	RISK RATING: N/A
Not part of this technology.	
M. OVERHEAD LIFTS	RISK RATING: 4
Unloading and loading of technology may require overhead lifts or the use of a forklift. Proper precautions indicated.	
N. OVERHEAD HAZARDS	RISK RATING: 1
Would only be present if a crane were required to unload or load equipment.	

SECTION 6: ASSOCIATED HEALTH HAZARDS	
A. INHALATION HAZARD	RISK RATING: 3
Technology produces dust from the concrete and concrete contamination. Specific hazards will be identified from the site characterization. Evaluation of total dust and/or respirable dust generated should be conducted. The shot may also present an inhalation hazard especially as it becomes pulverized.	

SECTION 6: ASSOCIATED HEALTH HAZARDS	
B. SKIN ABSORPTION	RISK RATING: 1
This would be dependent on the contaminants at the site and would be identified by the site characterization.	
C. HEAT STRESS	RISK RATING: 4
Ambient atmospheric conditions correlated with PPE levels must be considered.	
D. NOISE	RISK RATING: 3
The technology presents a noise hazard.	
E. NON-IONIZING RADIATION	RISK RATING: N/A
Not part of this technology.	
F. IONIZING RADIATION	RISK RATING: 1-4
None associated with this technology but the contaminated concrete may present a significant radiation exposure. This will be identified by the site characterization.	
G. COLD STRESS	RISK RATING: 1
Technology does not produce a hazard, but ambient conditions need to be considered.	
H. ERGONOMIC HAZARDS	RISK RATING: 3
Poses ergonomic hazards associated with lifting, bending, twisting, stooping, kneeling. These may cause injury/strain to the back, knees, hips, and/or legs.	
I. OTHER	RISK RATING: 3
Poses a hazard due to arm-hand vibration from operating the blasting heads. This may lead to associated health problems such as Raynaud's syndrome.	

SECTION 7: PHASE ANALYSIS	
A. CONSTRUCTION/START-UP	
The set-up/start-up phase presents several hazards including pinch points, slips/trips/falls, struck by/caught between, falling from above, and muscular/back injury.	

SECTION 7: PHASE ANALYSIS

B. OPERATION

The operational phase presents several hazards including exposure to contaminant (airborne and from the surface), muscular/back injury, mechanical hazards, and exposure to noise, and arm-hand vibration.

C. MAINTENANCE

The maintenance phase presents several hazards including pinch points, slips/trips/falls, struck by/caught between, muscular/back injury, electrical, exposure to contaminants (airborne and from the surface), and accidental activation of moving parts.

D. DECOMMISSIONING

The decommissioning phase presents several hazards including exposure to the contaminant, pinch points, slips/trips/falls, and muscular/back injury.

SECTION 8: HEALTH AND SAFETY PLAN REQUIRED ELEMENTS

A. AIR MONITORING

When concrete is blasted, total dust and respirable dust need to be monitored. Monitoring also needs to be done for specific concrete contaminants and may need to be conducted for specific constituents of the concrete such as silica. In addition, noise monitoring is essential.

B. WORKER TRAINING

Training that would apply in this case may include but not be limited to: HAZWOPER (Hazardous Waste Operations and Emergency Response), HAZCOM (Hazard Communication), Respiratory Protection, Hearing Conservation, Ergonomics (proper lifting, bending, stooping, kneeling, specific training for equipment operation, CPR/First Aid/Emergency Response/Bloodborne Pathogens, Electrical Safety, Lockout/Tagout, Radiation Safety, Hand Signal Communication, Construction Safety (OSHA 500) and or General Industry Safety (OSHA 501).

C. EMERGENCY RESPONSE

Emergency response planning for a site needs to assure adequate coverage for hazards described in the TSDS. Having as many workers as possible trained in CPR and first aid is recommended.

SECTION 8: HEALTH AND SAFETY PLAN REQUIRED ELEMENTS

D. MEDICAL SURVEILLANCE

Evaluation of personnel's general health with emphasis on the cardiovascular and respiratory system, back, and peripheral nervous system. Annual audiograms.

E. INFORMATIONAL PROGRAM

Workers must be trained in specific operation of equipment before use.

SECTION 9: COMMENTS AND SPECIAL CONSIDERATIONS

Due to the noise produced, communication may become difficult. Personnel working in the area should be familiar with and use hand signals as necessary.

Only personnel who have been adequately trained in the operation of this technology should be permitted to operate and/or work with the equipment.