

Technology Safety Data Sheet

CS Unitec Grinder Model EBS 125D

Section 1: Technology Identity

Technology Name(s):		Emergency Contact:	
CS Unitec Grinder Model EBS 125D		Phone: 203-853-9522 or 800-700-5919	
Manufacturer's Name and Address:		Information Contact:	
CS Unitec 22 Harbor Avenue Norwalk, CT 06850 Phone: 203-853-9522 or 800-700-5919 Fax: 203-853-9921 Email: info@csunitec.com Website: http://www.csunitec.com		Phone: 203-853-9522 or 800-700-5919	
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Section 2: Technology Pictures



Figure 1: CS Unitec Grinder Model EBS 125D Next to Refractory Brick.



Figure 2:
Concrete Wheel
(Color: Gold) For
Finishing and
Facing Concrete,
Brick, Lime-
sand-stone,
Basalt, and
Sandstone.



Figure 3:
Screed and New
Concrete Wheel
(Color: Yellow)
For Finishing
New and Green
Concrete,
Screed, Lime
Mortar and
Plaster, Cement,
Mortar, and Soft
Limestone.



Figure 4:
Thermoplastics and
Hard Coatings
Wheel (Color: Red)
For Finishing
Poroton and Slate
as Well as
Removing
Adhesives
Remnants and
Protective Paints
and High Build
Coatings.



Figure 5:
Tungsten Carbide
Grit Wheel (Color:
Copper) For
Leveling and
Reducing Plaster,
Lime-sand-stone
and Roughening
Wood; Also
Removing Old
Paint.

Section 3: Technology Description

The CS Unitec Grinder Model EBS 125D operates with a 14 AMP/1500 WATT motor, see *Figure 1, Section 2*. It is designed to remove residual mud, epoxy, old paint, high spots, shuttering seams, and spills. It can be used to smooth rough surfaces and to prepare concrete surfaces before applying new coatings of epoxy, paint, or other material. Dust production is limited during operation when the CS Unitec Grinder Model EBS 125D is connected to an industrial vacuum cleaner. The grinding guard completely covers the diamond wheel for efficient dust collection. When grinding along edges and in corners, the front edge of the dust guard can be removed to allow the grinding wheel to reach next to walls. During operation, the grinder is held by two side handles; one handle incorporates a dead man switch. The switch must be depressed for operation of the grinder. These side handles offer a better ergonomic design than the traditional angle grinder. The motor is located above the grinding head and away from the dust flow zone. Full-wave electronics provide soft start-up; overload protection, and constant speed under load. The grinder uses a 5" thermo-jet diamond wheel. Four thermo-jet diamond wheel models are available for various substrates; see *Figures 2-5, Section 2*.

Section 4: Safety Hazards

Hazard Category:

(Adapted from Appendix A to MIL-STD-882D, February 10, 2000, Department of Defense Standard Practice for System Safety.)

- 4 - Could result in death or permanent total disability
- 3 - Could result in permanent partial disability or injuries or occupational illness that may result in hospitalization of at least three persons
- 2 - Could result in injury or occupational illness resulting in one or more lost work days
- 1 - Could result in injury or illness not resulting in a lost work day
- N/A - Is not applicable to this technology and poses no appreciable risk

A. Buried Utilities, Drums, and Tanks	Hazard Rating: N/A
This hazard is not applicable to this technology.	
B. Chemical (Reactive, Corrosive, Pyrophoric, etc)	Hazard Rating: N/A
This hazard is not applicable to this technology.	
C. Confined Space	Hazard Rating: N/A
This hazard is not applicable to this technology.	
D. Electrical	Hazard Rating: 2
A 120-volt alternating current electrical source powers the CS Unitec Grinder Model EBS125D. The grinder consumes 14 amps/1500 watts and must be connected to a grounded extension cord. The grounded extension cord must have at a minimum an average wire gage (AWG) of 14. If other equipment or lighting are were in use on the same wire circuit, an AWG of 12 or 10 would likely be necessary. The use of a grounded cord is mandatory because the grinder is not double insulated.	
E. Explosives	Hazard Rating: N/A
This hazard is not applicable to this technology.	
F. Fire Protection	Hazard Rating: 1
The grinder is capable of producing enough friction to remove surfaces. If surface coatings are combustible, a fire extinguisher should be readily available.	
G. Gas Cylinders	Hazard Rating: N/A
This hazard is not applicable to this technology.	
H. Ladders/Platforms	Hazard Rating: 1
If ladders are used to gain access to a surface for grinding, assure ladders are sufficiently rated for the combined weight of the operator and the tools. Platforms, if used, should be adequately sized and weight rated. Choose locations for electrical cords that assure they do not become tripping hazards.	
I. Lockout/Tagout	Hazard Rating: 1
When servicing the grinder, such as for a wheel change, unplug and lockout the electrical cord to prevent accidental operation. Use a keyed lock on the blade of the grinder's electrical plug to assure energizing the grinder is not possible.	

J. Mechanical Hazards	Hazard Rating: 2
<p>The grinder incorporates a completely guarded rotating disc. A small portion on the front of the guard is removable to allow better access to wall, floor, and ceiling joints. When this portion of the guard is removed, the grinding wheel is capable of throwing debris at the operator. Even when all guarding is in place, the underside of the grinder is exposed for operation. The grinder should not be operated unless the grinder is in contact with a surface. The grinder should not be removed from a surface unless the grinding wheel has come to a complete stop. The operator should not rest the grinder on or against any part of the body.</p>	
K. Moving Vehicles	Hazard Rating: N/A
<p>This hazard is not applicable to this technology.</p>	
L. Overhead Hazards	Hazard Rating: N/A
<p>This hazard is not applicable to this technology.</p>	
M. Pressure Hazards	Hazard Rating: N/A
<p>This hazard is not applicable to this technology.</p>	
N. Slips/Trips/Falls	Hazard Rating: 1
<p>Electrical cord(s) must be managed to assure they do not become tripping hazards. Locate electrical cords in locations away from foot traffic areas.</p>	
O. Suspended Loads	Hazard Rating: N/A
<p>This hazard is not applicable to this technology.</p>	
P. Trenching/Excavation	Hazard Rating: N/A
<p>This hazard is not applicable to this technology.</p>	
Section 5: Health Hazards	
A. Inhalation	Hazard Rating: 2
<p>Grinding operations with the CS Unitec Grinder Model EBS 125D should generate limited dust when the vacuum attachment is used. Grinding dust will contain any contaminants found on or within the surface undergoing grinding. Respiratory protection may be required to reduce the risk of exposure to surface contaminants. Air sampling is recommended to assess workplace exposures.</p>	

B. Skin Absorption	Hazard Rating: 1
<p>Contaminants in the surface undergoing grinding may contain heavy metals such as lead or chromium. If the skin becomes contaminated, the individual can easily transmit the metals into the mouth and digestive tract. Frequent hand washing before eating or drinking, and the use of personal protective equipment such as gloves will help guard against ingestion of the metal through skin contact. Personnel should also wash exposed body parts. Specific PPE may be required to protect against radionuclides.</p>	
C. Noise	Hazard Rating: 2
<p>Noise sampling of the CS Unitec Grinder Model EBS 125D was not representative of actual sound pressure levels likely to be encountered during operation. Operators of the CS Unitec Grinder Model EBS 125D must wear hearing protection and possibly dual hearing protection depending upon site conditions. Additional noise sampling is needed to further assess the CS Unitec Grinder Model EBS 125D on a site-specific basis.</p>	
D. Heat Stress/Cold Stress	Hazard Rating: 1
<p>The technology does not produce a heat stress or cold stress hazard but ambient conditions need to be considered and monitored. PPE requirements for entering a work zone will increase the risk of heat stress hazards.</p>	
E. Ergonomics	Hazard Rating: 1
<p>The two-handle design of the CS Unitec Grinder Model EBS 125D allows preferred hand and arm positioning while grinding. The lightweight grinder allows use and movement with ease. When operating the grinder, use good body positioning to lesson muscle stress.</p>	
F. Ionizing Radiation	Hazard Rating: N/A
<p>This hazard is not applicable to this technology.</p>	
G. Non-ionizing Radiation	Hazard Rating: N/A
<p>This hazard is not applicable to this technology.</p>	
H. Biological Hazards	Hazard Rating: N/A
<p>This hazard is not applicable to this technology.</p>	
I. Other	Hazard Rating: 1
<p>Pieces of the surface material or substrate could become projectiles when grinding. These pieces could rapidly eject and become a potential struck-by hazard. The area around the grinding operation needs barricading and labeling to prevent personal injury.</p>	

Section 6: Phase Analysis

A. Construction/Start-up

Check grinding wheel and assure secure attachment. Plug grinder into a sufficiently rated extension cord, at least an AWG of 14. Barricade operation area to prevent persons from entering inadvertently.

B. Operation

The area of CS Unitec Grinder Model EBS 125D operation needs barricades and labels. Assure operator training on the CS Unitec Grinder Model EBS 125D, PPE, and grinding techniques. Assure adequate workspace is free of tripping hazards. Operators need to prevent the electrical cord(s) from becoming tripping hazards on walking or working surfaces.

C. Maintenance (Emergency and Routine)

Use lockout/tagout procedures when maintenance is performed on any system component.

D. Shutdown (Emergency and Routine)

The CS Unitec Grinder Model EBS 125D does not create any additional need for shutdown procedures.

E. Decontamination/Decommissioning

Decontamination of the CS Unitec Grinder Model EBS 125D should not require any more than washing off the surface of the grinder. It may not be possible to remove contamination from the motor area of the grinder. Disposal of the entire grinder may be necessary.

Section 7: Worker Protection Measures

A. Exposure Monitoring

Personnel need periodic monitoring for noise exposure. Assure proper hearing protection is in use, as needed. Air sampling is advised when grinding a coating or subsurface that contains or has the potential to contain a contaminant. The grinding dust, if not completely captured, has the potential to carry contaminants; therefore, personal and area air sampling is advised to assure operator protection.

B. Worker Training

Personnel require specific training on the CS Unitec Grinder Model EBS 125D operation and grinding techniques. Additionally, training on proper PPE usage, hearing conservation, respiratory protection, and lockout/tagout is recommended.

C. Medical Surveillance

Depending on the contaminant(s) present in the surface or substrate, airborne levels, and the need for respiratory protection and PPE, medical surveillance may be required by OSHA standards.

D. Engineering Controls

Ventilation of the work area may be required if grinding dust is not sufficiently removed by the grinder vacuum attachment.

E. Administrative Controls

Enforcement of proper PPE usage and electrical cord management is necessary to decrease likelihood of injury to site personnel.

F. Personal Protective Equipment

PPE is required for use of the CS Unitec Grinder Model EBS 125D. Possible PPE consists of earplugs or earmuffs depending on noise levels, safety glasses, steel-toed boots, leather gloves, and a respirator depending on presence of airborne contaminants. If other operations warrant, a hardhat may also be required.

Section 8: Emergency Preparedness

Emergency medical contact information should be posted within the work area in the event medical assistance is needed.

Section 9: Comments, Lessons Learned, & Special Considerations

None.

This Technology Safety Data Sheet Was Prepared By:

Team Leader:

Chip Booth

Operating Engineers National Hazmat Program
1293 Airport Road
Beaver WV, 25813
304-253-8674

Team Members:

Aaron A. Ondo

Operating Engineers National Hazmat Program
3775 Morgantown Industrial Park Bldg. 400
Morgantown, WV 26501
304-284-9129

Mark Schaunaman, Apprenticeship Director
South Florida Operating Engineers
Apprentice & Training Trust, Local 487
1425 NW 36th St., Miami, FL 33142

Copies of this Technology Safety Data Sheet and others developed by the Operating Engineers National Hazmat Program can be found on the internet at: www.iuoeiettc.org.