

safety
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SHP400 STUMP GRINDER

HAZARD EVALUATION



QUESTION? CAN A PERSON BE INJURED?	HAZARD Y OR N?	What is the Hazard?	HAZARD RATING No.	If Rating No. is 15 or less What is the CONTROL?
A. ENTANGLEMENT 1. Can anyone's hair, clothing, gloves, necktie, jewellery, cleaning brushes, rags, or other materials become entangled with moving parts of the plant, or materials in motion?	Y	Machine's Function	21	Guarding, Stay in Operator's Zone. Shut off Engine when out of zone
B. CRUSHING 1. Can anyone be crushed due to				
a. Material falling off the plant?	N			Selection by Operator
b. Uncontrolled or unexpected moving of the plant or its load?	N			Selection by Operator
c. Lack of capacity for the plant to be slowed, stopped or immobilised?	N			Selection by Operator
d. The plant tipping or rolling over?	Y	Violation of having Unit on Level Surface to Operate	23	Training Common Sense
e. Part of the plant collapsing?	N			Selection by Operator
f. Coming in contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair?	N			Selection by Operator
g. Being thrown off or under the plant?	N			Selection by Operator
h. Being trapped between the plant and material or fixed structures?	N			Selection by Operator
i. Other factors not mentioned? (<i>Spectators must be kept away</i>)	N			Only as Knowledge Increases
C. CUTTING, STABBING & PUNCTURING? 1. Can anyone be cut, stabbed or punctured due to				
a. Coming in contact with sharp or flying objects?	Y	Operator or Others in Discharge Area, Grinding Zone	21	Stay in Operator Zone, Safety gear required, No Bystanders
b. Coming in contact with moving parts of the plant during testing, inspection, operations, maintenance, cleaning or repair of the plant?	Y	Operator or Others in Discharge Area, Grinding Zone	21	Make sure engine is shut off if out of operator zone
c. The plant, parts of the plant or work pieces disintegrating?	Y	Operator or Others in Discharge Area, Grinding Zone	21	Shut Engine Off, Safety Gear Required
d. Work pieces being ejected?	Y	Operator or Others in Discharge Area, Grinding Zone	21	Stay in Operator Zone, Safety Gear Required, No Bystanders
e. The mobility of the plant?	N			Selection by Operator
f. Uncontrolled or unexpected movement of the plant?	N			Selection by Operator
g. Other factors not mentioned? (<i>Spectators must be kept away</i>)	N			Only as Knowledge Increases
D. SHEARING 1. Can anyone's body parts be sheared between two parts of the plant, or material handled by the plant?	N			Selection by Operator
E. FRICTION 1. Can anyone be burnt due to contact with moving parts or surfaces of the plant, or between a part of the plant and a work piece or structure?	Y	Engine Exhaust	23	Do not penetrate Engine Guard, Knowledge of Hot Surface, Safety Gear Required
F. STRIKING 1. Can anyone be struck by moving objects due to :				
a. Uncontrolled or unexpected movement of the plant?	N			
b. The plant, parts of the plant or work pieces disintegrating?	Y	Leaving Operators Zone	24	Shut Engine Off, Safety Gear worn, Not in Discharge Area
c. Work pieces being ejected?	Y	Discharge Area not secured.	21	Safety Gear Worn, Not in Operator Zone, Shut Engine Off
d. The mobility of the plant?	N			
e. Other factors not mentioned (<i>Spectators must be kept away</i>)	N			Selection by Operator

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G. HIGH PRESSURE SUBSTANCES 1. Can anyone come into contact with substances under high pressure, due to plant failure or misuse of the plant?	N			Selection by Operator
H. ELECTRICAL 1. Can anyone be injured by electrical shock or burnt due to:	N			
a. The plant contacting live electrical conductors?	Y	Grounding Breached	24	Weather Selection
b. the plant working in close proximity to electrical conductors?	N			Selection by Operator
c. Overload of electrical circuits?	N			Selection by Operator
d. Damaged or poorly maintained electrical leads and cables?	N			Selection by Operator
e. Damaged electrical switches?	N			Selection by Operator
f. Water near electrical equipment?	N			Selection by Operator
g. Lack of isolation procedures?	N			Selection by Operator
h. Other factors not mentioned?				Only as Knowledge Increases
I. EXPLOSION 1. Can anyone be injured by explosion of gases, vapours, liquids, dusts or other substances, triggered by the operation of the plant or by material handled by the plant?	N	Explosion of Fuel/Hydraulic Tank		Insure proper venting of tank, Selection by Operator
J. SLIPPING, TRIPPING & FALLINGS 1. Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to:	N			
a. Uneven or slippery work surfaces?	Y	Machine should always be on Level/Dry Surfaces	21	Training, Common Sense, Adhere to Safe Operating Instructions
b. Poor housekeeping, eg swarf in the vicinity or the plant spillage not cleaned up?	Y	Poor Housekeeping	23	Training, Common Sense Supervision
c. Obstacles being placed in the vicinity of the plant, other factors not mentioned?	Y	Poor Site Selection	23	Training, Common Sense Supervision
2. Can anyone fall from height due to:				
a. Lack of proper work platform?	N			Selection by Operator
b. Lack of proper stairs or ladders?	N			Selection by Operator
c. Lack of guard rails or other suitable edge protection?	N			Selection by Operator
d. Unprotected holes, penetrations or gaps?	N			Selection by Operator
e. Poor floor or walking surfaces, such as the lack on a slip resistant surface?	N			Selection by Operator
f. Steep walking surfaces?	N			Selection by Operator
g. Collapse of the supporting structure?	N			Selection by Operator
h. Other factors not mentioned?	N			Only as Knowledge Increases
K. ERGONOMIC 1. Can anyone be injured due to:				
a. Poorly designated seating?	N			
b. Repetitive body movement?	N			Training, Common Sense
c. Constrained body posture or the need for excessive effort?	N			Training, Common Sense
d. Inadequate or poorly placed lighting?	N			Selection by Operator
e. Lack of consideration given to human error or human behaviour?	Y	Lazy, Rush, Tired	23	Training, Safety Gear, Common Sense, Supervision, Safety Gear
f. Mismatch of the plan with human traits and natural limitations?	Y	Under Influence, Lazy, Tired, Cockiness	23	Training, Common Sense, Supervision, Safety Gear

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L. SUFFOCATION 1. Can anyone be suffocated due to lack of oxygen, or atmospheric contamination?	N			Selection by Operator
M. HIGH TEMPERATURE OR FIRE 1. Can anyone come into contact with objects at high temperature?	Y	Engine Exhaust	23	Knowledge of hot surface Wear Safety Gear Guarding by Location
N. TEMPERATURE (THERMAL COMFORT) 1. Can anyone suffer ill health due to exposure to high or low temperature?	Y	Engine Exhaust	23	Weather Selection Wear Safety Gear Selection by Operator
O. OTHER HAZARDS 1. Can anyone be injured or suffer ill health from exposure to:				
a. Chemicals?	Y	Use of Chemicals	24	Selection by Operator
b. Toxic fumes or vapours?	N			Selection by Operator
c. Fumes?	N			Selection by Operator
d. Dust?	Y	Grinding Condition	23	Assume Risk, Mask, Wet Material
e. Noise?	Y		23	Maintenance, Wear Safety Gear, Common Sense
g. Vibration?	Y	Maintenance	23	Proper Maintenance,, Training, Common Sense
g. Radiation?	N			Selection by Operator
h. Other factors not mentioned?	N			Only as Knowledge Increases

CALCULATION FOR RISK ASSESSMENT

For each identified hazard consider the maximum credible, not absolute worst case risk that may result and select from each of the following Lists

	Likelihood of Occurrence
1	Expected to Happen
2	Common
3	Sometimes
4	Rarely
5	Highly unlikely

	Severity of Result
A	Fatality
B	Permanent Disability
C	Lost Time Injury
D	Medical Treatment
E	First Aid Injury

Plot the categories selected from 'Likelihood of Occurrence' and 'Severity of Result' onto the Hazard Rating Grid to determine the Hazard Rating Number.

eg. If we plot 4 and B on the Hazard Rating Grid, the Hazard Rating number will be 14.

HAZARD RATING GRID

	A	B	C	D	E
1	1	2	4	7	11
2	3	5	8	12	16
3	6	9	13	17	23
4	10	14	18	21	23
5	15	19	22	24	25

The Hazard Rating Number calculated for the risk assessment of an identified hazard is classified as follows:

- a) Relatively High Risk 1 to 6
- b) Medium Risk 7 to 15
- c) Relatively Low Risk 16 to 25 (acceptable risk)

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