

HAZARD EVALUATION for HS1211 'RHINO' SINGLE PHASE 240 VOLT ELECTRIC POWERED HOT WATER (DIESEL FUELED) PRESSURE CLEANER

CAN A PERSON BE INJURED BY THE FOLLOWING?	HAZARD LIKELY?	WHAT is the HAZARD?	HAZARD RATING	CONTROL MEASURE
A. ENTANGLEMENT 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?	N			
B. CRUSHING Can anyone be crushed due to:				
(i) Material falling off the plant?	N			
(ii) Uncontrolled or unexpected moving of the plant or its load?	N			
(iii) Lack of capacity for the plant to be slowed, stopped or immobilised?	N			
(iv) The plant tipping or rolling over?	N			
(v) Part of the plant collapsing?	N			
(vi) Coming in contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair?	N			
(vii) Being thrown off or under the plant?	N			
(viii) Being trapped between the plant and material or fixed structures?	N			
(ix) Other factors not mentioned?	N			
C. CUTTING, STABBING OR PUNCTURING? Can anyone be cut, stabbed or punctured due to:				
(i) Coming in contact with sharp or flying objects?	N			
(ii) Coming in contact with moving parts of the plant during testing, inspection, operations, maintenance, cleaning or repair of the plant?	N			
(iii) The plant, parts of the plant or work pieces disintegrating?	Y	PUMP or HEATING COIL FAILURE	24	REGULAR INSPECTION and MAINTENANCE of THE COMPONENTS
(iv) Work pieces being ejected?	Y	HIGH PRESSURE HOSE or ACCESSORY FAILURE	24	REGULAR INSPECTION and REPLACEMENT of WORN or DAMAGED HIGH PRESSURE HOSING and ACCESSORIES
(v) The mobility of the plant?	N			
(vi) Uncontrolled or unexpected movement of the plant?	N			
(vii) Other factors not mentioned?	N			

CAN A PERSON BE INJURED BY THE FOLLOWING?	HAZARD LIKELY?	WHAT is the HAZARD?	HAZARD RATING	CONTROL MEASURE
D. SHEARING Can anyone's body parts be sheared between tow parts of the plant, or material handled by the plant?	N			
E. FRICTION / BURNING 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	HEATING COIL	25	MAKE NO CONTACT DURING or JUST AFTER HOT WATER OPERATION (COIL GUARDED AGAINST CONTACT DURING NORMAL USE)
F. STRIKING Can anyone be struck by moving objects due to;				
(i) Uncontrolled or unexpected movement of the plant?	N			
(ii) The plant, parts of the plant or work pieces disintegrating?	Y	PUMP or HEATING COIL FAILURE	24	REGULAR INSPECTION and MAINTENANCE of THE COMPONENTS
(iii) Work pieces being ejected?	Y	HIGH PRESSURE HOSE or ACCESSORY FAILURE	24	REGULAR INSPECTION and REPLACEMENT of WORN or DAMAGED HIGH PRESSURE HOSING and ACCESSORIES
(iv) The mobility of the plant?	N			
G. HIGH PRESSURE SUBSTANCES Can anyone come into contact with substances under high pressure, due to plant failure or misuse of the plant?	Y	HIGH PRESSURE WATER	21	CORRECT and AUTHORISED PLANT OPERATION. USE of PROTECTIVE CLOTHING and EQUIPMENT
H. ELECTRICAL Can anyone be injured by electrical shock or burns due to;				
(i) The plant contacting live electrical conductors / devices?	Y	SHOCK or ELECTROCUTION	24	OPERATOR AWARENESS OF THE ELECTRICAL HAZARD and PROCEDURE TO ELIMINATE CONTACT
(ii) The plant working in close proximity to electrical conductors / devices?	Y	SHOCK or ELECTROCUTION	24	OPERATOR AWARENESS OF THE ELECTRICAL HAZARD and PROCEDURE TO ELIMINATE CONTACT
(iii) Overload of electrical circuits?	N			
(iv) Damaged or poorly maintained electrical leads and cables?	Y	SHOCK or ELECTROCUTION	24	REGULAR INSPECTION and MAINTENANCE of THE COMPONENTS
(v) damaged electrical switches?	Y	SHOCK or ELECTROCUTION	24	REGULAR INSPECTION and MAINTENANCE of THE COMPONENTS
(vi) Water near electrical equipment?	Y	SHOCK or ELECTROCUTION	24	OPERATOR AWARENESS OF THE ELECTRICAL HAZARD and PROCEDURE TO ELIMINATE CONTACT
(vii) Lack of isolation procedures?	Y	SHOCK or ELECTROCUTION	24	OPERATOR AWARENESS OF THE ELECTRICAL HAZARD and PROCEDURE TO ELIMINATE CONTACT
(viii) Other factors not mentioned?	N			

CAN A PERSON BE INJURED BY THE FOLLOWING?	HAZARD LIKELY?	WHAT is the HAZARD?	HAZARD RATING	CONTROL MEASURE
I. EXPLOSION 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?	Y	COMBUSTIBLE SUBSTANCES IN CONTACT with ELECTRICAL COMPONENTS	24	OPERATOR AWARENESS OF THE HAZARD and REMOVAL OF ALL COMBUSTIBLE MATERIALS AWAY FROM THE PLANT DURING OPERATION
J. SLIPPING, TRIPPING and FALLS Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to;				
(i) Uneven or slippery work surfaces?	Y	SLIP, TRIP, FALL	21	OPERATOR AWARENESS OF THE HAZARD and PROCEDURE TO ELIMINATE RISK
(ii) Poor housekeeping e.g. rubbish in the vicinity or the plant spillage not having been cleaned up?	Y	SLIP, TRIP, FALL	21	OPERATOR AWARENESS OF THE HAZARD and PROCEDURE TO ELIMINATE RISK
(iii) Obstacles being placed in the vicinity of the plant or other factors not mentioned?	Y	SLIP, TRIP, FALL	21	OPERATOR AWARENESS OF THE HAZARD and PROCEDURE TO ELIMINATE RISK
Can anyone fall from a height due to;				
(i) Lack of proper work platform?	N/A			
(ii) Lack of proper stairs or ladders?	N/A			
(iii) Lack of guardrails or other suitable edge protection?	N/A			
(iv) Unprotected holes, penetrations or gaps?	N/A			
(v) Poor floor surfaces, such as the lack of a slip resistant surface?	N/A			
(vi) Steep walking surfaces?	N/A			
(vii) Collapse of supporting structure?	N/A			
(viii) Other factors not mentioned?	N/A			
K. ERGONOMIC Can anyone be injured due to;				
(i) Poorly designed seating?	N/A			
(ii) Repetitive body movement?	N			
(iii) Constrained body posture or the need for excessive effort?	N			
(iv) Inadequate or poorly placed lighting?	N/A			
(v) Lack of consideration given to human error or human behaviour?	Y	HIGH PRESSURE HOT WATER	21	CORRECT and AUTHORISED PLANT OPERATION with USE of PROTECTIVE CLOTHING and EQUIPMENT
(vi) Mismatch of the plan with human traits and natural limitations?	N			
(vii) Other factors not mentioned?	N			

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L. SUFFOCATION Can anyone be suffocated due to lack of oxygen, or atmospheric contamination?	N			
M. HIGH TEMPERATURE OR FIRE Can anyone come in contact with objects at high temperature?	Y	HEATING COIL	25	MAKE NO CONTACT DURING or JUST AFTER HOT WATER OPERATION (COIL GUARDED AGAINST CONTACT DURING NORMAL USE)
N. OTHER HAZARDS Can anyone be injured or suffer ill health from exposure to;				
(i) Chemicals?	N			
(ii) Toxic gases or vapours?	N			
(iii) Fumes?	Y	DIESEL FUEL	21	OPERATOR AWARENESS of the HAZARD and USE of BREATHING PROTECTION
(iv) Dust?	N			
(v) Noise?	N			
(vii) Vibration?	N			
(viii) Radiation?	N			
(ix) Other factors not mentioned?	Y	HIGH PRESSURE HOT WATER	21	CORRECT and AUTHORISED PLANT OPERATION with USE of PROTECTIVE CLOTHING and EQUIPMENT

CALCULATIONS FOR RISK ASSESSMENT

For each identified hazard consider the maximum credible,
NOT the 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 grid to determine the Hazard Rating Number

For example, if both **4** and **B** are selected then 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	20
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)**