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|-----------------------------------------------------------------------------------|--------------------------|------------------------|
|  | <h1>RISK ASSESSMENT</h1> | Document Number        |
|                                                                                   |                          | QHSE DOCS-RA-AW--00-01 |
|                                                                                   |                          | Revision Number / Date |
|                                                                                   |                          | 00 / 25 June 2023      |
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| ABRASIVE WHEELS                                                                   |                          | Page 1 of 2            |

|                                                                                |                       |                                                                                                         |                           |                          |            |
|--------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------|---------------------------|--------------------------|------------|
| Title of Assessment:                                                           | Use of Abrasive Wheel | Project No.:                                                                                            |                           | Date of Assessment:      | 00/03/20XX |
| Assessment No:                                                                 | RA- 01                | Project Name:                                                                                           |                           |                          |            |
| Company Name:                                                                  |                       | Assessed by:                                                                                            | (Print Name) HSE Engineer | Date of Next Assessment: |            |
| Standard PPE: Overalls, hardhat, steel toe-cap boots or shoes, reflective vest |                       | The frequency or probability exposure is a value from 1 to 3. The higher the risk the higher the value. |                           |                          |            |

| EXPOSURE        |                   | F x P x S = RR  |                    |                |                 |                 |             | INDIV. RISK RATING = RR |          | ACTION BY           |
|-----------------|-------------------|-----------------|--------------------|----------------|-----------------|-----------------|-------------|-------------------------|----------|---------------------|
|                 |                   | SEVERITY(S)     |                    |                |                 |                 |             |                         |          |                     |
| FREQUENCY - (F) | PROBABILITY - (P) | Process         | Reputation         | Injury         | Damage          | Environment     | CLASS       |                         |          |                     |
| Occasionally 1  | Unlikely 1        | < R10 thousand  | Site concern       | First aid only | < R10 thousand  | 1-10L spill     | 1 - Minor   | LOW RISK                | 1 to 6   | Address in one week |
| Daily 2         | Possible 2        | < R100 thousand | Local attention    | Medical care   | < R100 thousand | 11-100L spill   | 2 - Serious | MEDIUM RISK             | 7 to 12  | Address in 24 hours |
| Continuously 3  | Certain 3         | < R 1 million   | National attention | Fatal / Sec 24 | < R 1 million   | 101-1000L spill | 3 - Major   | HIGH RISK               | 13 to 27 | Address immediately |

| (TASK/OPERATIONAL STEPS<br>Job/Activities/Plant/<br>Materials or Process<br>(Source of Hazard?) | HAZARD DESCRIPTION<br>(Unsafe Act or Condition?)                                                                                                                                                                                                                                                                                                              | RISKS                                                                                                                                                                                                                                                                                                                                                                                                                                     | BASIC CAUSE OF HAZARD<br>(Personal, job,<br>environment factors?)                                                                                                                                                                                                                                                                                                          | INITIAL RISK RATING |   |   |    | Current Control Measures<br>Engineering &<br>Administrative                                                                                                                                                                                                                                                                                                    | RESIDUAL RISK RATING |   |   |    | Recommended Control Measures<br>incl. specialised PPE/Safety Equip. &<br>specific Training, RA's & SWP's                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|---|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---|---|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                 |                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                            | F                   | P | S | RR |                                                                                                                                                                                                                                                                                                                                                                | F                    | P | S | RR |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Using an Abrasive Wheel                                                                         | <ul style="list-style-type: none"> <li>● Heavy Steel</li> <li>● Contact with the disc during use</li> <li>● Disc shattering due to incorrect mounting</li> <li>● Disc shattering due to incorrect mounting</li> <li>● Flying debris during a grinding process</li> <li>● Fire</li> <li>● Hand arm vibration syndrome</li> <li>● Fire and Explosion</li> </ul> | <ul style="list-style-type: none"> <li>● Fatalities/ Total</li> <li>● Permanent Disability (TPD)</li> <li>● Fatalities/ Total</li> <li>● Permanent Disability (TPD)</li> <li>● Fatalities/ Total</li> <li>● Permanent Disability (TPD)</li> <li>● Serious eye injuries <ul style="list-style-type: none"> <li>– Burns</li> <li>– Fatality</li> <li>– Property damages</li> <li>Body pain</li> <li>Fatalities / TPD</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>● Wheel Breakage</li> <li>● Improper Mounting</li> <li>● Incorrect Wheel Selection</li> <li>● Wheel Wear</li> <li>● Excessive Speed</li> <li>● Inadequate Inspection</li> <li>● Lack of Proper Guarding</li> <li>● Poor Work Rests</li> <li>● Inadequate Personal Protective Equipment (PPE)</li> <li>● Lack of Training</li> </ul> | 3                   | 3 | 3 | 27 | <ul style="list-style-type: none"> <li>● Fully trained and experienced operators only carry out this work</li> <li>● The correct abrasive wheel is selected for the particular application</li> <li>● Only fully trained and experienced person shall change the disc</li> <li>● Only fully trained and experienced person must carry out this work</li> </ul> | 3                    | 2 | 2 | 12 | <ul style="list-style-type: none"> <li>● A check of equipment guard's etc., need to be carried out before works starts.</li> <li>● Excludes those not involved in the operation from the hazardous area, Try to reduce the likelihood of injury</li> <li>● Disc speed shall be always greater than the tools speed</li> <li>● Workers need to carry out a check of equipment before work starts</li> <li>● PPE including eye protection worn</li> </ul> |



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|  |  |  |                                                                                                                                                                                                                                       |  |  |  |  |                                                                                                                                                                                                                                                                                                                             |  |  |  |  |                                                                                                                                                                                                                                                                             |
|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | <ul style="list-style-type: none"> <li>● Improper Storage and Handling</li> <li>● Ignored Safety Procedures</li> <li>● Inadequate Dust and Fume Control</li> <li>● Operator Fatigue</li> <li>● Lack of Machine Maintenance</li> </ul> |  |  |  |  | <ul style="list-style-type: none"> <li>● Exclusion zones are set up as required</li> <li>● Fire Extinguishers are provide at the location of works and operators are trained in their use</li> <li>● Only blades of correct type and in good condition are used</li> <li>● Hot works permit system is adhered to</li> </ul> |  |  |  |  | <ul style="list-style-type: none"> <li>● Implementation of Emergency preparedness and response procedures</li> <li>● Gloves will keep operators hands warm and dry, which shall reduce the risk</li> <li>● Trained operators shall be aware of the risk involved</li> </ul> |
|  |  |  |                                                                                                                                                                                                                                       |  |  |  |  |                                                                                                                                                                                                                                                                                                                             |  |  |  |  |                                                                                                                                                                                                                                                                             |
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