integrated safety Standard Operating Practices

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| General Information |
| SOP number | Written by: |
| Date effective: 04 03 14 | Last modified: 29 05 15 |
| Job task: Connecting / Disconnecting Anhydrous Ammonia Nurse Tank |
| Location: Field | No of employees performing job: 1  |

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| Responsibilities(Who is responsible for each aspect of the job) |
| Position | Duties |
| Employer | Is responsible to provide instruction, safe equipment and supervision to the workers to have a safe working environment.  |
| Worker | To follow the instruction of the employer and use the proper equipment, be aware of and share hazard information with fellow workers and your employer. |

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| Job Task Assessment(List all the tasks & associated hazards for the job being evaluated) |
| Job Task | Hazards |
| Park in an upwind position from the nurse tank and approach tank from an upwind direction. | Inhalation, Skin/Eye contact |
| Ensure the liquid withdrawal valve on the nurse wagon is closed. | Inhalation, Skin/Eye Contact |
| Position the applicator unit and ensure the hitch pin is secured. | Pinch Points |
| Ensure the safety chains are attached. |  |
| Standing upwind, open the bleeder valve on the applicator’s breakaway coupler to relieve any pressure. | Inhalation, Skin/Eye Contact |
| Lift and shake the hose to ensure any pooled anhydrous ammonia is released. | Inhalation, Skin/Eye Contact |
| Remove the protective cap on the breakaway coupler. Ensure the packaging is in good condition and in place. | Inhalation, Skin/Eye contact |
| Remove the transfer hose from the nurse tank’s park plug. Handle by the valve body, not by the valve wheel. | Inhalation, Skin/Eye Contact |

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| Attach the hose to the breakaway coupler on the applicator, and tighten securely with a pipe wrench. |  |
| Ensure the bleed valves on the breakaway coupler and on the hose valve are closed. | Inhalation, Skin/Eye Contact |
| Slowly open the hose end valve. | Inhalation, Skin/Eye Contact |
| Slowly open the main withdrawal valve on the nurse tank and check for leaks. If a leak occurs, close off the nurse tank and re-tighten connections | Inhalation, Skin/Eye Contact |
| The system is now charged, and ready to apply anhydrous ammonia. |  |
| Disconnecting nurse tank from applicator unit |  |
| Park in an upwind position from the nurse tank. Put on all PPE and approach the tank from an upwind direction. | Inhalation, Skin/Eye Contact |
| Close the main withdrawal valve on the bottom of the nurse tank. | Inhalation, Skin/Eye Contact |
| Close the hose end valve on the end of the liquid line. | Inhalation, Skin/Eye Contact |
| To drain the applicator, pull the machine up the field for 2-3 minutes with the control valve open and the applicator unit in the ground. | Inhalation, Skin/Eye Contact |
| Open the bleeders on the breakaway coupler and the hose end valve. | Inhalation, Skin/Eye Contact |
| Lift up the hose running from the breakaway coupler to the nitrolator to ensure any pooled anhydrous ammonia has been removed from the hose. | Inhalation, Skin/Eye Contact, Tripping hazard, pinch points. |
| Remove the hose from the applicator unit and place the hose end on the nurse tank parking plug. | Inhalation, Skin/Eye contact, tripping hazard, pinch points |
| Place the caps on the breakaway coupler and close off bleed valves. | Inhalation, Skin/Eye Contact |
| Remove safety chains from the applicator hitch. | Tripping hazard, pinch points |
| Remove safety pin from nurse tank and applicator hitch. | Pinch points |
| Secure the hitch, so the unit does not fall on your leg or foot. | Pinch points, tripping hazard |

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| Hazard Controls(Describe the controls that will be implemented to remove hazards – elimination, substitution, engineered, administrative, PPE)**.**  |
| PPE: Full-face respirator approved for anhydrous ammonia use, One or two piece anhydrous ammonia resistant suit, 14” gauntlet style neoprene gloves, work boots with leather tongue or rubber boots. |
| Anyone involved in any part of anhydrous ammonia application is certified under Transportation of Dangerous goods regulations and retailer safety training. |
| Stay up wind from couplings, nurse tank, or anywhere anhydrous ammonia could be present at all times. |
| Roll up Cuffs on gloves to prevent ammonia from running down your arms. |
| Have a minimum of 20 litres (4.5 Gallons) of fresh water in containers, mounted on the nurse tank at adequate height to provide gravity flow, and to allow easy access for use. Additional squeeze bottles of water should be kept in the pocket of whoever is involved in this procedure. If working in subzero temperatures, provide an additional 20 litres (4.5 Gallons) of water in a container in the tractor cab to prevent from freezing. |
| First Aid equipment. |

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| Skill Level / Training Required to Perform theJob(List training requirements) |
| Producer training certification for NH3 |
| Transportation of Dangerous Goods certification, valid driver’s license |

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| Communications Processes(Consider working alone, further instructions, concerns, how will assistance be delivered) |
| Daily morning safety meetingAll employees handing anhydrous ammonia must have a cell phone on their person. |
| All employees must have a copy of all legal land descriptions where each individual is working for that given day. |

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| Emergency Procedures(Consider how the worker will initiate an emergency response) |
| In an incident where anhydrous ammonia product is involved, it must be reported to ensure compliance with environmental and other government regulations. Notify supervisor immediately. |
| Face the tractor upwind, proceed upwind and call for assistance. |
| Evacuate immediate area or downwind residence. |
| Contact Police and Fire Department and Ambulance if serious injuries are sustained. |

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| Expected Result(Consider the benefits of the Standard Operating Practice for farm operations) |
| Safe and efficient application of anhydrous ammonia. |
| Injury free workplace. |