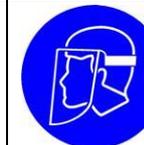
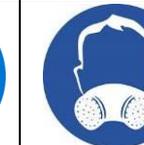
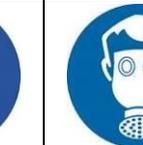


STANDARD OPERATING PROCEDURE SOP-021	Revision 0
Pumping of liquid waste	

1. Activity	Pumping of liquid waste	
2. Associated Risk and Environmental Impact Assessment	F-01-09-021	
3. Control measures	<ol style="list-style-type: none"> 1. Ensure all guards, safety devices, brakes, etc. are in good condition and are operating correctly 2. Do not use compressed air for blowing down clothing etc. as compressed air can enter the body via the skin. 3. Check connections, hoses of pump before commencement of pumping. 4. Secure all pumping equipment 5. Wear all appropriate PPE. 6. All lifting activities are being done by the machinery, in case of manual activity, instructions for the right posture of the body have been given 7. Use funnels if required 8. Fire extinguisher (CO₂) on site 9. Cleaning/washing facilities on site. Check integrity of both primary and secondary packaging, especially secondary one. If damage is found replace packaging immediately. 10. Secure pump ends, especially outlet in case of drum pump. 11. Check if pump is operating properly before commencement of works, using water for instance. 12. Place pump if applicable into basin 13. Check power pack of pump, or air supply in case of hydraulic or pneumatic pumps. 14. Take care when blowing out condensation etc from hoses and ensure that the open end is secure and not pointing to anyone 15. Hoses, connections and valves will be in good condition and correctly fitted. 16. Hearing protection if above 80db TWA or 137db Peak 17. If initial state of waste is into a pit/lagoon tank/case of marine oil spill, restrict access to avoid falling into the pit/lagoon/sea. Always stay 2 meters away from moving machineries (i.e. forklift) 18. Vehicles equipped with beeping reverse 19. Always use a banksman to supervise the machinery movements 	

4. PPE							
							
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Helmet, EN 397, EN50365	[specify type]	Goggles, mask type, EN 166	[specify type]	Dust mask, EN 149	Half face mask combined with appropriate* cartridges, EN 140, EN 143	Full face mask combined with appropriate* cartridges, EN 136	[specify type]

							
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
[specify type]	Tyvek Type 4/5, EN 14605	High visibility vest EN20471	Chemical resistant gloves (Neoprene or Nitrile, EN 374)	Safety rubber boots or safety leather boots, EN ISO 20345 S5, S3	[specify type]	[specify type]	

*Pumping activities can be categorized into:

1. Transfusion from primary to secondary packaging media (e.g. drum to drum, Ibc to drum, drum to iso-tank etc.)
2. Pumping from initial state (e.g. tank, open lagoon, pit, pont etc.) to packaging media (drum, Ibc, iso-tank)

*In case of air pumps and usage of air compressor, refer to SOP-037-Compressors and pneumatic power tools and adjust activity steps accordingly. Checking of pneumatic equipment must be held before commencement of works.

*In case of pumping corrosive liquids, make sure the pumps and hoses used are tolerant to extreme pH.

*In case of operating into explosive atmospheres (e.g. refinery production area) make sure that pumping equipment is ATEX approved.

*Present document applies for pumping/transfusing liquids into Bulk Liquid Storage Tanks (iso-tanks).

5. Pre-job checks

1. Check compressor and power pack for proper operation before commencement of works	2. Check integrity of PPE
3. Check that all fittings and connections are in good condition prior to starting.	4. Refer to all equipment manual before commencement of works
5. Ensure no slip/trip hazards are present in workspaces and walkways.	6. Ensure no slip/trip hazards are present in workspaces and walkways.
7. Check that all fittings and connections are in good condition prior to starting.	8. Check and drain possible water in tanks/hoses
9. Check integrity of hoses and packaging media that liquids will be transfused into.	10. Secure all pumping equipment
11. Cleaning/washing facilities on site. Check integrity of both primary and secondary packaging, especially secondary one. If damage is found replace packaging immediately.	12. Secure pump ends, especially outlet in case of drum pump.
13. If initial state of waste is into a pit/lagoon tank/case of marine oil spill, restrict access to avoid falling into the pit/lagoon/sea.	14. Always stay 2 meters away from moving machineries (i.e. forklift)

6. Execution	Pumping	
<p>1. Step 1. Cover the pumping activity area with tarpaulin sheet to contain possible spill.</p>		
<p>2. Step 2. Check that pump (air pump, manual pump, drum pump, hydraulic pump) is operating properly before commencement of works. Use water for testing.</p>		
<p>3. Step 3. Put pump inlet hose or pump inlet (in case of drum pump) into liquid to be pumped</p>		
<p>4. Step 4. Put pump outlet hose into packaging media (drum, Intermediate Bulk Container, Iso-tank) that liquid will be transfused.</p>		
<p>Step 5. Secure both inlet and outlet hose and cover secondary packaging media with plastic sheet to avoid possible contamination.</p>		
<p>Step 6. Commence pumping activity and constantly check hoses and pumping progress.</p>		
<p>Step 7. Make sure not to exceed maximum allowed capacity (e.g. packaging media should be filled up to 80% of total capacity)</p>		
<p>Step 8. Drain all liquids from all hoses to avoid possible leakage or spill.</p>		
7. After work checks		
<ul style="list-style-type: none"> • Roll up hoses and ensure work area is left in orderly condition • Make sure no spill or leakage has been detected • Recirculate with water at the end of each shift or in case of changing pumped liquid. 		
Issued	Checked	Approved

<i>Panagiotis Manolopoulos</i> <i>Project Manager</i> <i>Signature</i> <i>Date 25/05/2016</i>	<i>Ilias Pavlidis</i> <i>HSSEQ Manager</i> <i>Signature</i> <i>Date 26/05/2016</i>	<i>Dimitrios Tiniakos</i> <i>Executive Officer</i> <i>Signature</i> <i>Date 26/05/2016</i>
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