CFA Piling Risk Assessment Pack
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CHANGE RECORD

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<th>Author</th>
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</thead>
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<tr>
<td>1</td>
<td></td>
<td>EC</td>
</tr>
<tr>
<td>2</td>
<td>New HSEQ Policy</td>
<td>EC</td>
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<tr>
<td>3</td>
<td>Adblue added into COSHH assessment</td>
<td>EC</td>
</tr>
<tr>
<td>4</td>
<td>RA10 updated</td>
<td>EC</td>
</tr>
</tbody>
</table>
1. INTRODUCTION

This document is to accompany the CFA Piling Works Package Plans issued to clients. It includes the Keller HSEQ policy (Appendix A) and collates the task and materials hazards present on CFA sites. Site specific hazards are addressed through the use of form 1-1.2K F9 Site Hazard Assessment, a copy of which is include in the project Works Package Plan.

All current Risk Assessments and Hazard Assessments are available for download from the Keller Intranet (KIMS) by the Site Supervisor, attached are the current versions as noted within the change record. The CFA Contracts Manager will update this document periodically (6-monthly review).

2. HAZARD ASSESSMENT FORMS

   KF HA01 Piling Rig Access and Egress
   KF HA02 CFA - Using a CSP Attachment
   KF HA07 Site Crane Works
   KF HA10 (CFA) Continuous Flight Auger Piling
   KF HA12 Lifting and Installation of Pile Reinforcement
   KL HA02 Loading Unloading of Lorries
   KL HA07 Site establishment
   KL HA10 Mobile Elevated Work Platform
   KL HA14 Forklift Truck Telescopic Handlers
   KL HA16 Air Compressors
   KL HA18 Loading & Unloading of Plant, Equipment, Etc
   KL HA22 Concrete Pumping
   KL HA23 Abrasive Wheels
   KL HA25 Rite Mixer
   KL HA27 Welding Cutting and Associated Work on Site
### Keller Ltd

**Task: Piling Rig Access / Egress**

**Assessment Ref / Rev:** KF_HA01

<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Persons at Risk</th>
<th>Degree of Risk</th>
<th>Control Measures</th>
<th>Residual Risk</th>
<th>Person Responsible</th>
<th>Monitoring Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Climbing onto and off piling rigs</td>
<td>Anyone</td>
<td>3 3 9</td>
<td><strong>(PUWER reg 5&amp;6)</strong> All rig operators must carry out daily checks and record on the weekly plant return forms. (this must include checking the steps) Anyone climbing onto the rig steps must ensure the step is in good order and not covered in mud / debris. Any debris on boots should be kicked off prior to climbing up. Check steps not icy during winter months. Discuss available in work vans. Tools must never be stored on the steps. Use permanent fixtures on rig to grab hold off if necessary to aid climbing up onto tracks. (Working at height Rgs 3 &amp; 14) No-one is to climb onto back of rig without the handrails being in place. If access is required to the mast then a MEWP or equivalent must be utilised.</td>
<td>3 3 3</td>
<td>Rig operator / anyone wishing to climb onto rig</td>
<td>Site Supervisor / Forman</td>
</tr>
<tr>
<td>A1</td>
<td>Slipping off steps / tracks</td>
<td>Anyone</td>
<td>3 3 9</td>
<td>Anyone climbing on rigs must remain vigilant and concentrate at all times. Foreman / Supervisors to carry out daily briefings highlighting any specific hazards. (H&amp;S@W act 1974 section 2)</td>
<td>3 2 6</td>
<td>Rig operator / anyone wishing to climb onto rig</td>
<td>Site Supervisor / Forman</td>
</tr>
<tr>
<td>A2</td>
<td>Complacency</td>
<td>Anyone</td>
<td>3 3 9</td>
<td>Extra care must be taken during heavy wind or rain. Snow must be brushed off prior to climbing. Use de-icer or something equally effective to thaw out any ice when required. Boots must be kicked against tracks prior to climbing.</td>
<td>3 1 3</td>
<td>Rig operator / anyone wishing to climb onto rig</td>
<td>Site Supervisor / Forman</td>
</tr>
<tr>
<td>A3</td>
<td>Poor Weather conditions</td>
<td>Anyone</td>
<td>3 3 9</td>
<td>Ganger must ensure that no tools are left on the steps. Plant dept. are fitting tool trays to all rigs to store the hammer, screwdriver, plastic caps, etc.</td>
<td>3 1 3</td>
<td>Rig operator / Ganger</td>
<td>Site Supervisor / Forman</td>
</tr>
<tr>
<td>A4</td>
<td>Storage of tools on steps</td>
<td>Anyone</td>
<td>3 3 9</td>
<td>Keller will ensure that anyone required to climb onto any piling rig is in good physical health. The supervisor must ensure that everyone is capable of climbing into the Cab of the Piling Rig when it is set to its maximum footprint. The company has a programme for carrying out regular health surveillance.</td>
<td>3 1 3</td>
<td>Rig operator / Ganger</td>
<td>Site Supervisor / Forman</td>
</tr>
</tbody>
</table>

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**Key:**

- **Red**: Red - Intolerable take immediate action
- **Yellow**: Yellow - Tolerable with additional controls
- **Green**: Green - Tolerable no further action required

**Severity Levels:**

- **1**: Almost Certain
- **2**: Remote
- **3**: Probable
- **4**: Possible
- **5**: Improbable

**Acceptance Criteria:**

- **Red**: Intolerable take immediate action
- **Yellow**: Tolerable with additional controls
- **Green**: Tolerable no further action required

**Risk Assessment Matrix:**

- **Severity:**
  - 1: Almost Certain
  - 2: Remote
  - 3: Probable
  - 4: Possible
  - 5: Improbable

- **Likelihood, L:**
  - 1: Minor Injury
  - 2: First Aid injury
  - 3: Major Injury
  - 4: Permanent Consequence
  - 5: Potential Fatality

**Persons at Risk:**

- **C**: Any person wishing to climb onto rig

**Department:** Keller Divisions

**Issue Date:** Mar-13

**Rev 2 Date:** June 2015

**Rev 1 Date:** 22nd March 2014
<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Person at Risk</th>
<th>Degree of Risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Use of welding equipment.</td>
<td>Welder / Site staff</td>
<td>5 3 10</td>
<td>Gas cylinders and hoses to be checked for leaks, etc. Arc welding equipment to be examined by electrician regularly. Cylinders to be kept upright and secured. Valves to be closed when not in use. Cylinders to be fitted with appropriate regulator and gauge. Flash-back arrestors to be fitted on all lines. Cylinders must be stored in a cool dry place away from any direct heat source.</td>
<td>5 1 5</td>
<td>Welders</td>
<td>Mobile plant manager, site foreman</td>
</tr>
<tr>
<td>A1</td>
<td>Fire and explosion from the ignition of gas cylinders</td>
<td>Welder / Site staff</td>
<td>5 3 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>Fire from other flammable materials</td>
<td>Welder / Site staff</td>
<td>5 3 10</td>
<td>Hot work permit must be in place prior to carrying out any hot work operations. Flammable materials must be removed from working area. Fire extinguisher must be available and close by at all times. Welder to check condition of welding equipment before use and to ensure that equipment is safe after use. Cutting and welding of drums or tanks that have contained flammable materials is prohibited with out following the appropriate procedure. This must include producing a separate HA in conjunction with the Workshop Manager.</td>
<td>5 1 5</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
</tr>
<tr>
<td>A3</td>
<td>Fumes from rods, coatings and metals.</td>
<td>Welder / Site staff</td>
<td>4 4 10</td>
<td>Welding etc. must be undertaken in well-ventilated areas. Local exhaust ventilation may also be required in certain circumstances to remove fumes. Health checks must be undertaken at set timescales arranged by line management / HR.</td>
<td>4 2 8</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
</tr>
<tr>
<td>A4</td>
<td>Hot metal surfaces.</td>
<td>Welder / Site staff</td>
<td>2 3 6</td>
<td>Hot work permit must be in place prior to carrying out any hot works on site. Welder to exclude other persons from the working area. Barriers and signs may be required. Welder must wear welding gloves.</td>
<td>2 1 2</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
</tr>
<tr>
<td>A5</td>
<td>Flying splatter</td>
<td>Welder / Site staff</td>
<td>3 3 9</td>
<td>Welder to exclude other persons from the working area. Barriers and signs may be required. Welder must wear flame retardant overalls, appropriate apron and welding gloves.</td>
<td>3 1 3</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
</tr>
<tr>
<td>A6</td>
<td>Excessive light/radiation for the welder.</td>
<td>Welder / Site staff</td>
<td>4 4 10</td>
<td>Approved welding Face shield must be worn by the welder</td>
<td>4 1 4</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
</tr>
<tr>
<td>A7</td>
<td>Excessive light/radiation for others nearby.</td>
<td>Welder / Site staff</td>
<td>4 4 10</td>
<td>Fireproof screens to be placed around working area. Welder to exclude other persons from the working area. Barriers and signs may be required</td>
<td>4 2 8</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
</tr>
<tr>
<td>B</td>
<td>Storage of used hot welding rods.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>B1</td>
<td>Burns / Scalds</td>
<td>Welder / Site staff</td>
<td>2 4 8</td>
<td>Used weld rods should be immediately placed in a small steel bucket or such like receptacle.</td>
<td>2 1 2</td>
<td>Welders</td>
<td>Welder, Supervisor</td>
</tr>
<tr>
<td>C</td>
<td>Storage of gas cylinders.</td>
<td></td>
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</tr>
<tr>
<td>C1</td>
<td>Fire and explosion.</td>
<td>Welder / Site staff</td>
<td>5 3 15</td>
<td>Cylinders must be stored in dedicated locked labelled cages and secured. Cylinders in use in the workshop must be stored on trolleys and isolated when not in use. Any vans carrying gas bottles must be ventilated, carry appropriate fire extinguishers and display the correct hazard warning signs.</td>
<td>5 1 5</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
</tr>
<tr>
<td>D</td>
<td>Use of burning gear for cutting steel.</td>
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</tr>
<tr>
<td>Task</td>
<td>Hazard</td>
<td>Persons at risk</td>
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</tr>
<tr>
<td></td>
<td>General Note.</td>
<td></td>
<td></td>
<td>Note: relevant parts of the above assessment for the use of welding equipment shall apply for the use of burning gear except where amended below</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td>Excessive light</td>
<td>Welder / Site staff</td>
<td>4 4 16</td>
<td>Goggles to EN 166 class 3, 4, 9-B fitted with a filter to EN169 to be worn.</td>
<td>4 1 4</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
</tr>
</tbody>
</table>
### General Note

NOTE: Cranes are only to be operated by trained and competent persons. When applicable, operatives shall hold a current CPCS card. Operatives under training shall be supervised by an authorised employee. All lifts are to be properly planned and supervised by suitably trained and competent persons.

### Control measures

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>A All Activities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1 Overloading of crane.</td>
<td>Operator / Site workers</td>
<td>5 3 15</td>
<td>Project Manager to arrange for a suitable and sufficient crane to undertake required lifts. A suitable lift plan must be prepared by an Appointed person, this must be reviewed by an appointed person prior to any mobilisation of cranes. The site must be visited before preparing lift plant. Supervisor to ensure that weights of loads are known and are within the capacity of the crane.</td>
<td>5 1 5</td>
<td>Appointed Parson</td>
<td>Project Manager / Supervisor</td>
</tr>
<tr>
<td>A2 Trips, slips and falls</td>
<td>Operator / Site workers</td>
<td>3 4 12</td>
<td>The work area must be kept clean and tidy at all times. All lifting accessories must be stored off the ground in the correct storage areas whilst not in use.</td>
<td>3 1 3</td>
<td>Operator / Site workers</td>
<td>Supervisor</td>
</tr>
<tr>
<td>A3 Adverse ground.</td>
<td>Operator / Site workers</td>
<td>5 3 15</td>
<td>A suitable lift plan must be prepared by an Appointed person, this must be reviewed prior to commencing on site. The site must be visited before the lift plan is prepared. Platform certificate to be completed to confirm that platform is adequate before work commences. Platform to extend at least half a machine width beyond crane. Extra consideration to be given when working adjacent to site boundaries or hoardings.</td>
<td>5 1 5</td>
<td>Appointed Parson</td>
<td>Project Manager / Supervisor</td>
</tr>
<tr>
<td>A4 Contact with overhead electric cables.</td>
<td>Operator / Site workers</td>
<td>5 3 15</td>
<td>If overhead cables are present the Energy company provider must be contacted for assistance. No further work must continue until suitable control measures have been documented and agreed. The Supervisor must confirm on the site hazard assessment that the overhead lines do not affect the crane or to arrange for improvements to be implemented before work commences.</td>
<td>5 1 5</td>
<td>Appointed Parson</td>
<td>Project Manager / Supervisor</td>
</tr>
<tr>
<td>A5 Collision with persons.</td>
<td>Operator / Site workers</td>
<td>5 3 15</td>
<td>Only trained and competent persons to operate cranes. The crane operator must ensure 360 degree vision is available at all times. Flashing beacon must always be switched on whilst plant in use. Safe exclusion zones must be provided and all non essential personnel kept out of the immediate work area. A trained Banksman must be in place supervising all crane activities. Always adhere to site traffic management plan.</td>
<td>5 1 5</td>
<td>Operator / Banksman</td>
<td>Supervisor</td>
</tr>
<tr>
<td>A6 Failure of lifting appliance or lifting accessories.</td>
<td>Site Workers</td>
<td>5 3 15</td>
<td>Current inspection certificate, not more than 12 months old, and test certificate not more than four years old, to be provided with crane. Inspection certificates, not more than six months old to be provided for lifting accessories with hired crane. Keller-owned accessories to be correctly colour-coded and to have an identification mark stamped on. Supervisor must inspect the machine on delivery. Operator to inspect the crane daily before use and to carry out routine servicing in accordance with the operators manual. Daily inspection to be made by operator and recorded on the weekly inspection report.</td>
<td>5 1 5</td>
<td>Operator / Banksman</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Task</td>
<td>Hazard</td>
<td>Persons at risk</td>
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</tr>
<tr>
<td>A7</td>
<td>High winds.</td>
<td>Operator / Site workers</td>
<td>5 2 10</td>
<td>In the event of extreme weather conditions it may sometimes be necessary to review any lifting operation until such time as it is safe to proceed. A competent person, AP or crane supervisor along with the crane driver needs to assess the wind speed and cease work if it is considered too high. (If able) using an anemometer unit, readings are to be taken every 30 mins and constantly monitored. Once both the AP or crane supervisor and the crane driver are comfortable with the wind speed and the fact that it is not gusting and the wind speeds are within the crane manufacturers guidelines the lift will be further assessed with regard to weight and radius. Should all parties be satisfied with the wind conditions and deem the lift to be safe, a tag line will be placed on the load prior to lifting. If the load is a cage, the cage will not be lifted until the pile is concreted to further mitigate any risks. Once the pile is concreted the cage will be lifted to the vertical and steadied with one or more tag lines and guided to the pile for placement. The pile cage is full of holes and as such the wind tends to pass through it rather than making the cage uncontrollable. The crane supervisor and the crane driver will constantly monitor the situation and abort works should they deem it to be beyond acceptable limits, or exceed the crane manufacturers operational limits. Although the safe workable wind speed varies from crane to crane, as a guide ONLY, the maximum wind speed at which lifting operations can take place is 10 metres per second (22 mph)</td>
<td>5 1 5</td>
<td>Operator / Banksman</td>
</tr>
<tr>
<td>A8</td>
<td>Uncontrolled fall of load.</td>
<td>Banks man / Slinger / Operator</td>
<td>5 2 10</td>
<td>Exclusion zone must be in place and adhered to</td>
<td>5 1 5</td>
<td>Banks man</td>
</tr>
<tr>
<td>A9</td>
<td>Fall of load caused by damage to strop being used on loads of small diameter.</td>
<td>Banks man / Slinger / Operator</td>
<td>5 3 15</td>
<td>Soft eyed strops are not to be used except for lifting drive tubes or for lifting CFA augers</td>
<td>5 1 5</td>
<td>Banks man</td>
</tr>
<tr>
<td>A10</td>
<td>Movement of load on ground while slings being attached or removed.</td>
<td>Banks man / Slinger / Operator</td>
<td>3 3 9</td>
<td>Loads to be placed on suitable timbers to allow access or strops underneath and chocks.</td>
<td>3 1 3</td>
<td>Banks man</td>
</tr>
<tr>
<td>A11</td>
<td>Fall of load caused by incorrect slinging.</td>
<td>Banks man / Slinger / Operator</td>
<td>5 3 15</td>
<td>Loads to be attached to the crane by a trained and component slinger. All lifting equipment used must be inspected prior to use and within it six monthly periodic inspection.</td>
<td>5 1 5</td>
<td>Banks man</td>
</tr>
<tr>
<td>B</td>
<td>Working alongside railways.</td>
<td>All site workers</td>
<td>5 3 15</td>
<td>The contract manager shall ensure that approval for the method of working has been obtained from the railway authority, prior to arranging any crane work. The site foreman shall ensure that the approval has been received prior to carrying out any work, which is in accordance with the agreed procedure.</td>
<td>5 1 5</td>
<td>Appointed Parson</td>
</tr>
<tr>
<td>C</td>
<td>Lifting near to or over adjacent buildings.</td>
<td>Building occupiers</td>
<td>5 2 10</td>
<td>Loads are not to be lifted over buildings, unless this is unavoidable. In this case, consent of the building controller to be obtained. Building to be unoccupied during the lift. Site specific Hazard Assessment must be completed prior to any works commencing.</td>
<td>5 1 5</td>
<td>Appointed Parson</td>
</tr>
</tbody>
</table>
### General Note.

Note: This assessment covers both pile tests using anchors and pile tests with kentledge. It also covers where relevant zone tests of treated or untreated ground.

### Operation / Task: Pile and Zone Tests.

**Assessment Ref / Rev:** KF_HAO8

**Prepared by:** HSEQ / Ops teams

**Location:** Keller Divisions

### H&S Consequence, C

<table>
<thead>
<tr>
<th>Hazard</th>
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<tbody>
<tr>
<td>C1</td>
<td>Ground bearing failure under kentledge.</td>
<td>Operator / Site Workers</td>
<td>5 3 15</td>
<td>Project manager or design engineer to confirm that the ground is suitable for loads to be applied and to confirm minimum size of platforms. An appointed person must prepare a separate lift plan if cranes are being used. Supervisor to assess ground before commencing to rig the test.</td>
<td>5 1 5</td>
<td>Appointed Person / Construction Manager / Supervisor</td>
</tr>
<tr>
<td>C2</td>
<td>Stability of kentledge.</td>
<td>Site Workers</td>
<td>5 3 15</td>
<td>Grillage to be suitable and sufficient for the test load. Kentledge to be suitable and stacked on the grillage in a suitable manner, uniformly over the load with each layer at 900 to the layer below. Each block to rest on at least two blocks below.</td>
<td>5 1 5</td>
<td>Operator</td>
</tr>
<tr>
<td>C3</td>
<td>Collision of kentledge with person on blocks</td>
<td>Site Workers</td>
<td>5 3 15</td>
<td>Person working on the kentledge blocks must be a trained and competent slinger / signaliser and to be in control of crane movements. If necessary a second person to relay signals to the crane operator.</td>
<td>5 1 5</td>
<td>Appointed Person / Supervisor</td>
</tr>
<tr>
<td>C4</td>
<td>Fall from height</td>
<td>Site Workers</td>
<td>5 3 15</td>
<td>Suitable ladder access to the top of the kentledge to be provided at all times. (Refer to HA 23: Use of Ladders for hazards involved with the use of ladders). Top of kentledge to be flat without trip hazards. A safety harness, fitted with a 1.5m lanyard shall be worn. The lanyard shall be secured to the lifting eye on the top of a kentledge block on the layer upon which the slinger is working.</td>
<td>5 1 5</td>
<td>Operator</td>
</tr>
<tr>
<td>D1</td>
<td>Failure of tensile rods</td>
<td>Operative setting up</td>
<td>5 15 15</td>
<td>Rods to be designed to carry loads. Anchor plates to be suitable. Welding to be carried out by authorised personnel.</td>
<td>5 1 5</td>
<td>Operator</td>
</tr>
<tr>
<td>D2</td>
<td>Collapse of beams.</td>
<td>Operative setting up</td>
<td>5 3 15</td>
<td>Minimum of four anchors to be used. Beams to be supported by a suitable cradle,</td>
<td>5 1 5</td>
<td>Operator</td>
</tr>
<tr>
<td>E1</td>
<td>Manual handling of jack, etc.</td>
<td>Operative setting up equipment</td>
<td>3 3 9</td>
<td>All employees must have undergone suitable manual handling training prior to commencing works on site. Suitable manual handling assessments must be carried out for tasks carried out on site. Mechanical means to be used to transport item where reasonably practicable. Two men to lift jack, pump etc. into position, if necessary.</td>
<td>3 1 3</td>
<td>Pile Tester</td>
</tr>
<tr>
<td>F</td>
<td>Undertaking test</td>
<td></td>
<td></td>
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<td>C  L  RR</td>
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</tr>
<tr>
<td>F1</td>
<td>Working alone</td>
<td>Pile tester</td>
<td>5  3  15</td>
<td>If working alone on the site, the person carrying out the test shall be provided</td>
<td>5  1  5</td>
<td>Pile Test company</td>
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<td>with a mobile phone and ensure an adequate lone worker procedure is in place. It</td>
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<td>must include a reporting in procedure at set times / durations. This procedure</td>
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<td></td>
<td>must be checked to confirm there is suitable mobile phone reception.</td>
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<tr>
<td>F2</td>
<td>Working at night</td>
<td>Pile tester</td>
<td>5  3 15</td>
<td>Working alone at night should be prohibited at all times unless all other means</td>
<td>5  1  5</td>
<td>Pile Test company</td>
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<td></td>
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<td></td>
<td>of pile testing options have been considered. A site specific RA must be</td>
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<td>undertaken by the pile test company. This must be reviewed and agreed with the</td>
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<td></td>
<td>Keller Project Manager and Main Contractor site manager. Keller Supervisor</td>
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<td>must ensure the control measures are adhered to. Suitable welfare provisions</td>
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<td>must be provided by the pile test company.</td>
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</tr>
<tr>
<td>F3</td>
<td>Failure of test beams</td>
<td>N/A</td>
<td>N/A N/A</td>
<td>Test equipment, suitable and certified as sufficient for the test load, labelled</td>
<td>N/A N/A N/A</td>
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<td></td>
<td></td>
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<td>and in good condition, shall be used.</td>
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</tr>
<tr>
<td>F4</td>
<td>Failure of hydraulic hoses</td>
<td>Pile tester</td>
<td>3 3 9</td>
<td>Hydraulic hoses to have capacity rated for pressures. Hoses to be routed to</td>
<td>3  1  3</td>
<td>Pile Tester</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>avoid loads being placed on them, buried if necessary. Hoses to be inspected</td>
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<td></td>
<td>before test commences.</td>
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<tr>
<td>F5</td>
<td>Lifting of kentledge blocks under load.</td>
<td>Pile tester</td>
<td>3 3 9</td>
<td>Total weight of kentledge ands test beams to exceed maximum test load by a</td>
<td>3  1  3</td>
<td>Pile Tester</td>
</tr>
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<td>minimum of 10%.</td>
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</tbody>
</table>
### H&S Consequence, C

<table>
<thead>
<tr>
<th>H&amp;S Consequence, C</th>
<th>Acceptance Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Minor Injury</td>
<td>Almost Certain</td>
</tr>
<tr>
<td>2 First Aid Injury</td>
<td>Almost Certain</td>
</tr>
<tr>
<td>3 Major Injury</td>
<td>Almost Certain</td>
</tr>
<tr>
<td>4 Permanent Consequence</td>
<td>Almost Certain</td>
</tr>
<tr>
<td>5 Potential Fatality</td>
<td>Almost Certain</td>
</tr>
</tbody>
</table>

### Env. Consequence, C

<table>
<thead>
<tr>
<th>Env. Consequence, C</th>
<th>Acceptance Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Minor Impact / operational delay</td>
<td>Almost Certain</td>
</tr>
<tr>
<td>2 Community complaints</td>
<td>Almost Certain</td>
</tr>
<tr>
<td>3 Major Impact</td>
<td>Almost Certain</td>
</tr>
<tr>
<td>4 Legal Consequence</td>
<td>Almost Certain</td>
</tr>
<tr>
<td>5 Impact and cost</td>
<td>Almost Certain</td>
</tr>
</tbody>
</table>

### Acceptance Criteria

- **Red - Intolerable** take immediate action
- **Yellow - Tolerable** with additional controls
- **Green - Tolerable** no further action required

### Site Hazard Assessment

- **Inadequate lighting**
  - Persons at risk: Site workers
  - Degree of risk: C: 3, L: 2, RR: 6
  - Control measures: Site hazard assessment to confirm that lighting is adequate or to ensure artificial light is available when necessary.

- **Trips, slips and Falls**
  - Persons at risk: Site workers
  - Degree of risk: C: 3, L: 3, RR: 9
  - Control measures: Before commencing on site the Construction Manager must liaise with the Main Contractor to ensure the site is provided with a clean and tidy work area with adequate space for unloading. Good housekeeping practices must be encouraged by Keller site personnel at all times. Rubbish, lifting equipment, re-bar, steel offcuts, etc. must not be allowed to build up. If the pedestrian routes or our immediate work area become uneven, this must be raised with the main contractor site manager.

- **Leptospirosis / Weils disease**
  - Persons at risk: Site workers
  - Degree of risk: C: 5, L: 3, RR: 15
  - Control measures: Food and drink must only be consumed in designated canteens. All rubbish must be disposed of correctly. Rubbish bins must not be allowed to overflow. Mess rooms must be cleaned daily. Good hygiene practices must be adhered to at all times. Hands must be washed before eating, drinking and smoking. Where there is an identified hazard, tool box talk 13 (Weils Disease) is to be briefed out. Any cuts are to be dressed immediately, cleanliness to be encouraged. Awareness cards are available from HSEQ admin office if required.

- **Excessive noise exposure for operators**
  - Persons at risk: Site workers
  - Degree of risk: C: 4, L: 3, RR: 12
  - Control measures: Noise levels for all operations have been assessed. Items of plant with an average noise levels of above 85dB(a) have ear protection zone signs requiring people to wear the correct ear protection. Where reasonably practicable, noise reduction methods are to be adopted to reduce noise level. Keller employees must ensure all other site workers are aware of the risk of noise exposure if working close by.

- **Excessive noise exposure for other site workers and general public adjacent to the site**
  - Persons at risk: Other workers / neighbours
  - Degree of risk: C: 4, L: 2, RR: 8
  - Control measures: Noise survey to be made available to the main contractor if required. Construction Manager should ask for dedicated piling area with sufficient exclusion zone / segregation.

- **Dust**
  - Persons at risk: Site workers
  - Degree of risk: C: 3, L: 3, RR: 9
  - Control measures: Project Manager / Construction Manager to liaise with Main Contractor prior to starting work on site to ensure adequate dust controls are in place. Keller may have to request that the main contractor has considered the possibility of spraying/dampening down the site surface to reduce the dust. In dusty conditions suitable eye protection and dust masks must be available and worn.
<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Persons at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
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<tbody>
<tr>
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<td></td>
<td>C  L  RR</td>
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<tr>
<td>B</td>
<td>Rigging and dismantling on site.</td>
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</tr>
<tr>
<td>B1</td>
<td>Inadequate piling platform causing plant to topple</td>
<td>Rig operator / ganger / banksman</td>
<td>5  3  9</td>
<td>Platform certificate to be completed to confirm that platform is adequate before work commences. This must be reinspected and signed off by the main contractor when ever the platform has been disturbed, or at intervals not exceeding 7 days. Platform to extend at least half a machine width beyond probe positions. Extra consideration to be given when working adjacent to site boundaries or hoardings.</td>
<td>5  1  5</td>
<td>Main Contractor</td>
<td>Project Manager / Construction Manager / Supervisor</td>
</tr>
<tr>
<td>B2</td>
<td>Ropes falling from track when rigging.</td>
<td>Rig operator / ganger / banksman</td>
<td>5  3  15</td>
<td>Ropes to be strapped into channel on mast when machine is being de-rigged to prevent the need for worker to climb the mast. <em>(All sites must have copies of the Task Instruction available for Rigging / De-rigging)</em></td>
<td>5  1  5</td>
<td>Banksman</td>
<td>Supervisor</td>
</tr>
<tr>
<td>C</td>
<td>Moving about the site.</td>
<td></td>
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<tr>
<td>C1</td>
<td>failure of piling rig.</td>
<td>Any site worker</td>
<td>5  3  15</td>
<td>All rigs on site must be within their respective 4 year test and current LOLER inspection, the certificate must be provided with the machine. The rig operator and supervisor must inspect the machine on delivery and ensure the rig is within it current periodic examinations. Operator is to inspect the machine daily and record on the weekly plant inspection form. Exclusion zones must be provided by the main contractor and enforced by the Keller Ganger man and or supervisor</td>
<td>5  1  5</td>
<td>Rig operator / Ganger</td>
<td>Supervisor</td>
</tr>
<tr>
<td>C2</td>
<td>Collision with worker or equipment</td>
<td>Any site worker</td>
<td>5  3  15</td>
<td>Construction Manager to request dedicated piling area with segregation before comencement on site. Movement of piling rig to be controlled by a trained banksman with a slinger/signaller CPCS card. All rigs must be fitted with rear view mirrors and reversing camera, movement to be controlled by a trained banksman. No-one must be allowed to be close enough to the piling rig which will enable contact.</td>
<td>5  1  5</td>
<td>Rig operator / Ganger</td>
<td>Project Manager / Construction Manager / Supervisor</td>
</tr>
<tr>
<td>C3</td>
<td>Contact with overhead power line.</td>
<td>Any site worker</td>
<td>5  3  15</td>
<td>Construction Manager / Supervisor to confirm on permit to dig that overhead lines do not affect the rig or to arrange for the correct required improvements to be implemented before the work continues or commences.</td>
<td>5  1  5</td>
<td>Rig operator / Ganger</td>
<td>Project Manager / Construction Manager / Supervisor</td>
</tr>
<tr>
<td>C4</td>
<td>Inadequate piling platform</td>
<td>Rig operator / ganger / banksman</td>
<td>5  3  9</td>
<td>Platform certificate to be completed to confirm that platform is adequate before work commences. This must be reinspected and signed off by the main contractor when ever the platform has been disturbed, or at intervals not exceeding 7 days. Platform to extend at least half a machine width beyond probe positions. Extra consideration to be given when working adjacent to site boundaries or hoardings.</td>
<td>5  1  5</td>
<td>Main Contractor</td>
<td>Project Manager / Construction Manager / Supervisor</td>
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<td>D</td>
<td>Connecting flight string</td>
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<td>D1</td>
<td>Fall from height</td>
<td>Teledhandler operative</td>
<td>5  2  10</td>
<td>Only trained operators are allowed to use the man riding basket. All persons in the basket shall wear a safety harness secured to a stable point in the basket. Never over reach from the basket, the MEWP must be positioned as close as possible to the item being worked on.</td>
<td>5  1  5</td>
<td>Operators</td>
<td>Supervisor</td>
</tr>
<tr>
<td>D2</td>
<td>Entrapment or nipping by auger</td>
<td>Rig operator / ganger / banksman</td>
<td>5  3  9</td>
<td>Person in basket who is making the connection shall not hold the flights until the flight being lowered is touching the remainder of the string. When inserting pins ensure they are just located in the auger socket, once done ensure hands are out of the way. All limbs must be kept well away from the augers until it is lowered to its final position. When re-driving the pins with force ensure hands are out of the way.</td>
<td>5  1  3</td>
<td>Operators</td>
<td>Supervisor</td>
</tr>
<tr>
<td>D3</td>
<td>Fall of tools from height</td>
<td>Rig operator / ganger / banksman</td>
<td>5  3  9</td>
<td>Pins; Podger; Hammer; Lifting chains must be stored in the basket in a way to prevent them falling. All non essential personnel must be kept away from the immediate work area around the augers whilst rigging is in process.</td>
<td>5  1  3</td>
<td>Operators</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Task</td>
<td>Hazard</td>
<td>Persons at risk</td>
<td>Degree of risk</td>
<td>Control measures</td>
<td>Residual risk</td>
<td>Person responsible</td>
<td>Monitoring responsibility</td>
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<td>E</td>
<td>Boring into the ground.</td>
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<tr>
<td>E1</td>
<td>Contact with underground services</td>
<td>Site Workers</td>
<td>5</td>
<td>3</td>
<td>15</td>
<td>Permit to excavate must be completed and issued by the main contractor before any work commences. Services to be traced by a cable avoiding tool by a trained and competent person (main contractor). Any located utility apparatus must be uncovered by the main contractor. No mechanical excavator can be used with in 500mm of any live utility apparatus. (HSG47)</td>
<td>5</td>
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<tr>
<td>E2</td>
<td>Entanglement personnel in auger</td>
<td>Site Workers</td>
<td>5</td>
<td>3</td>
<td>15</td>
<td>All site staff must wear Hi VI vests. Liaise with Main Contractor to ensure designated exclusion zone is provided. Consider installing metal crowd barriers if there are other site workers located close by. A trained and competent banks man must co-ordinate all rig movements. Persons wishing to approach or to pass the rig must make eye contact with the machine operator / banksman. No -one shall be located within the exclusion zones of the rig. Augers must be guarded in accordance with the requirements of the Provision and Use of Work Equipment Regulation, 1998 and the FPS Guidance Note.</td>
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<tr>
<td>E3</td>
<td>Inadequate piling platform</td>
<td>Rig operator / ganger / banksman</td>
<td>5</td>
<td>3</td>
<td>9</td>
<td>Platform certificate to be completed to confirm that platform is adequate before work commences. This must be reinspected and signed off by the main contractor when ever the platform has been disturbed, or at intervals not exceeding 7 days. Platform to extend at least half a machine width beyond probe positions. Extra consideration to be given when working adjacent to site boundaries or hoardings.</td>
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<td>F</td>
<td>Setting up of concrete pump and pipes</td>
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<tr>
<td>F1</td>
<td>Refer to separate Hazard assessment</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>N/A N/A N/A</td>
</tr>
<tr>
<td>G</td>
<td>Pumping Concrete</td>
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<tr>
<td>G1</td>
<td>Contact with concrete / cement</td>
<td>Site workers</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>Chemical Suites must be available and worn whenever there is a risk of concrete or grout coming into contact with clothing. Waterproof gloves, a long sleeved top and trousers must be worn at all times whilst working with any cement based product. Sleeves and trousers must be tucked into the gloves and boots respectively. Suitable footwear must be provided and worn at all times. If standing in concrete you must always ensure suitable water tight and chemical resistant wellington boots are worn. Begin each day wearing clean clothing and finish each day with a bath or shower. Apply a protective barrier hand cream before each working shift starts. Reapply every time hands are washed. Eye protection to EN166 3,4,9 – B must be worn when working with cement based products. If cement, concrete or grout gets into the eyes, it must be dealt with immediately by flushing with clean water. Seek immediate medical attention if persistent or severe discomfort is suffered.</td>
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<td>H</td>
<td>Extracting auger from the ground.</td>
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</tr>
<tr>
<td>H1</td>
<td>Spoil falling from auger</td>
<td>All site workers</td>
<td>3</td>
<td>4</td>
<td>12</td>
<td>During extraction the auger must be cleaned by a mechanical cleaner fitted to the rigs. All non essentusl personnel must stand clear. If it is not practical to use a mechanical cleaner, then written permission of the contracts director must be obtained before a device attached to an excavator arm is used to clean the auger. Cleaning by hand is forbidden. (A hazard assessment for excavator, including requirements for changing buckets to be used is to be obtained and included in the site file.) Supervisors must ensure this is understood and the correct measures are followed.</td>
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<td>I</td>
<td>Manufacture of reinforcing cage</td>
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<tr>
<td>Task</td>
<td>Hazard</td>
<td>Persons at risk</td>
<td>Degree of risk</td>
<td>Control measures</td>
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<tr>
<td>I1</td>
<td>Use of inappropriate bolt crops for cutting steel.</td>
<td>Steel fixer / site operatives</td>
<td>C 2 L 6 6</td>
<td>Bolt crops to be used for 12mm. diameter steel. For 16 mm diameter or greater the still saw is to be used. When using bolt crops, the operator is to ensure that the bolt crops are in good condition with straight arms and the cutting jaws are suitable.</td>
<td>3 1 3</td>
<td>Steel fixer / site operatives</td>
<td>Supervisor</td>
</tr>
<tr>
<td>J</td>
<td>Use of excavator to insert reinforcing cage.</td>
<td>Site Operatives</td>
<td>5 3 15 5</td>
<td>All excavator drivers must be trained, competent and familiar with quick hitch attachments. Semi-automatic quick hitch attachments are prohibited from being used on Keller activities. All lifting equipment used to lift the cages must be within its six monthly periodic inspection. The cages must be aligned on the dedicated lifting eye of the excavator. All non essential personnel must be kept away from the work area. The lifting operation must be controlled by the ganger man.</td>
<td>5 1 5</td>
<td>Steel fixer / site operatives</td>
<td>Supervisor</td>
</tr>
<tr>
<td>J1</td>
<td>Cage falling from excavator.</td>
<td>Site Operatives</td>
<td>5 3 15 5</td>
<td>All non essential personnel must be kept away from the work area. The lifting operation must be controlled by the ganger man.</td>
<td>5 1 5</td>
<td>Steel fixer / site operatives</td>
<td>Supervisor</td>
</tr>
<tr>
<td>J2</td>
<td>Underside of excavator bucket striking personnel when pushing cage into pile.</td>
<td>Site Operatives</td>
<td>5 3 15 5</td>
<td>All non essential personnel must be kept away from the work area. The lifting operation must be controlled by the ganger man.</td>
<td>5 1 5</td>
<td>Steel fixer / site operatives</td>
<td>Supervisor</td>
</tr>
<tr>
<td>K</td>
<td>Lift rebar into pile</td>
<td>Any site worker</td>
<td>5 3 15 5</td>
<td>A coupler must be attached to the top end of the rebar to give the rebar an edge. The coupler shall act as an edging where the fibre strop can tighten on to.</td>
<td>5 1 5</td>
<td>Ganger</td>
<td>Supervisor</td>
</tr>
<tr>
<td>L</td>
<td>Removal of spoil from pile position by excavator or similar.</td>
<td>All site workers</td>
<td>5 2 10 5</td>
<td>All site staff must wear Hi VI vests. Operator must ensure 360 degree vision is available at all times. Liaise with Main Contractor to ensure designated exclusion zone is provided. Consider installing metal crowd barriers if there are other site workers located close by. When setting up on site, ensure consideration is given to storage of materials minimising the risk of crossing pedestrian routes. A trained and competent banks man must co-ordinate all excavator movements whilst working in tight enclosed work area. Persons wishing to approach or to pass the excavator must make eye contact with the machine operator. No-one shall be located within 1m of the excavator. Excavators must always adhere to site traffic plan and never work over designated pedestrian route. Always ensure flashing beacon is used.</td>
<td>5 1 5</td>
<td>Main Contractor / Operators / banksmen</td>
<td>Main Contractor / Supervisor</td>
</tr>
<tr>
<td>M</td>
<td>Climbing into or out of a piling rig cab.</td>
<td>Rig operator / Ganger</td>
<td>3 2 6 6</td>
<td>(PUWER reg 5&amp;6) All rig operators must carry out daily checks and record on the weekly plant return forms. (this must include checking the steps) Anyone climbing onto the rig steps must ensure the step is in good order and not covered in mud / debris. Any debris on boots should be kicked off prior to climbing up. Check steps not icy during winter months. De-icer is available in work vans. Tools must never be stored on the steps. Use permanent fixtures on rig to grab hold off if necessary to aid climbing up onto tracks. (Working at height Rgs 3 &amp; 14) No-one is to climb onto back of rig without the handrails being in place. If access is required to the mast then a MEWP or equivalent must be utilised. (See separate assessment rig access and egress)</td>
<td>3 1 3</td>
<td>Rig operator / Ganger</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Task</td>
<td>Hazard</td>
<td>Person at risk</td>
<td>Degree of risk</td>
<td>Control measures</td>
<td>Residual risk</td>
<td>Person responsible</td>
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<tr>
<td>A1</td>
<td>Delivery of reinforcement to site.</td>
<td>Site Staff</td>
<td>5 L 5 RR</td>
<td>All deliveries to site are to follow the site traffic management plan, this is to be communicated to the supplier prior to delivery. All deliveries are to be directed by a banksman with suitable training and certification all other persons are to use pedestrian walkways and be kept out of the work area.</td>
<td>5 L 5 RR</td>
<td>Supervisor</td>
<td>Contract Manager</td>
</tr>
<tr>
<td>B2</td>
<td>Injury through incorrect unloading of reinforcement.</td>
<td>Operatives</td>
<td>3 L 4 RR</td>
<td>The offloaded reinforcement is to be stored in a predetermined area, good housekeeping of the storage area is to be carried out at all times. The reinforcement is to be placed in such a manner to avoid having to step over items to retrieve the needed reinforcement. If it is necessary to manual handle the reinforcement to the pile position a clear walkway is to be created.</td>
<td>3 L 2 RR</td>
<td>Supervisor</td>
<td>Contract Manager</td>
</tr>
<tr>
<td>B3</td>
<td>Laceration’s from manual handling reinforcement.</td>
<td>Operatives</td>
<td>2 L 5 RR</td>
<td>Where possible the manual handling of reinforcement is to be avoided. Suitable gloves and Keller PPE requirements must be worn at all times when handling reinforcement.</td>
<td>2 L 1 RR</td>
<td>Supervisor</td>
<td>Contract Manager</td>
</tr>
<tr>
<td>B4</td>
<td>Musculoskeletal injury from manual handling reinforcement.</td>
<td>Operatives</td>
<td>4 L 3 RR</td>
<td>Where possible a mechanical means of moving the reinforcement is to be used. Where this is not practicable then a manual handling assessment is to have been carried out.</td>
<td>4 L 2 RR</td>
<td>Supervisor</td>
<td>Contract Manager</td>
</tr>
<tr>
<td>C1</td>
<td>Sticking of operative during lifting from horizontal to vertical.</td>
<td>Operatives</td>
<td>3 L 3 RR</td>
<td>All personnel are to be cleared from the area of the lift. If it is required to hold tail end of reinforcement during lifting a mechanical means should be used, if this is not possible then the area is to be clear of all obstructions, the distance to lift is to be as short as possible and a constact line of sight is to be kept between operator and operative holding the tail end.</td>
<td>3 L 1 RR</td>
<td>Supervisor</td>
<td>Contract Manager</td>
</tr>
<tr>
<td>C2</td>
<td>Fall of single rod reinforcement during connection.</td>
<td>Operatives</td>
<td>3 L 4 RR</td>
<td>Reinforcing rod to be suspended by winch using swivel coupler that connects into rod connector. All lifting equipment is to have been inspected and have a six monthly inspection certificate. Rope lashings or stops are not to be used. Lower rod to be held by coupler resting on spinner while connection is made. Rod is not to be gripped and suspended by spinner.</td>
<td>3 L 2 RR</td>
<td>Supervisor</td>
<td>Contract Manager</td>
</tr>
<tr>
<td>C3</td>
<td>Fall of reinforcing cage into casing when being lowered in.</td>
<td>Operatives</td>
<td>3 L 4 RR</td>
<td>All lifting equipment is to have been inspected and have a six monthly inspection certificate. Cage is to be lifted into position from the pre determined lifting points as per the design. Cage to be lowered in using mechanical means. When cage is being lowered into hole, hands to be kept clear of the casing. Bar to suspend cage is to be suitable for the diameter of casing used.</td>
<td>3 L 2 RR</td>
<td>Supervisor</td>
<td>Contract Manager</td>
</tr>
</tbody>
</table>
**Operation / Task:** Loading & Unloading of lorries  
**Assessment Ref / Rev:** KL HA02  
**Department:** Keller  
**Prepared by:** Keller  
**Created Date:** 19th March 2013  
**Revision:** A  
**Date:** 20.08.2015

### H&S Consequence, C
- Minor Injury
- First Aid Injury
- Major Injury
- Permanent Consequence
- Potential Fatality

### Env. Consequence, C
- Minor Impact / operational delay
- Community complaints
- Major Impact
- Legal Consequence
- Major impact and cost

<table>
<thead>
<tr>
<th>Severity</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Yellow</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Green</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Likelihood, L
- Improbable (1)
- Remote (2)
- Possible (3)
- Probable (4)
- Almost Certain (5)

### Acceptance Criteria
- Red - Intolerable take immediate action
- Yellow - Tolerable with additional controls
- Green - Tolerable no further action required

### General Note
Note: All lifting operations on site, including loading and unloading from lorries are to be properly planned and supervised by trained and competent persons. The unloading and loading of lorries is to be undertaken by trained and competent persons only. Operators under training shall be supervised by an authorised employee. To eliminate the requirement for working on the back of the lorry, it shall be requested that where possible items are pre slung.

### Person at risk
- HSEQ / Dept.
- Operator/banks man/site staff

### Degree of risk
- C
- L
- RR

### Control measures
- Before any lifting operations take place, the work area must be assessed by a trained and competent person. If site specific lift plans are required these must be produced prior to any lift commencing. Ground conditions must be assessed for stability.
- Loading and unloading must only be carried out in the agreed designated loading/unloading areas. Exclusion zones may be required and suitable warning signs and barriers put in place.
- Loading or unloading on site

### Residual risk
- C
- L
- RR

### Person responsible
- Operator
- Supervisor

### Monitoring responsibility
- A
- Crane / Forklift / Telehandler usage
  -Operator/banks man/site staff 5 3 15
  - Before any lifting operations take place, the work area must be assessed by a trained and competent person. If site specific lift plans are required these must be produced prior to any lift commencing. Ground conditions must be assessed for stability.
  - Loading and unloading must only be carried out in the agreed designated loading/unloading areas. Exclusion zones may be required and suitable warning signs and barriers put in place.

### A2
- Working from the truck bed/trailer Falls from height.
  -Operator/banks man/site staff 4 3 12
  - Supervisor to ensure that if a person is required to work from a truck/trailer, the edge fall protection / bean bag system must be in place, on the truck/trailer. Where it is not practicable to have the edge fall protection in place due to the loading/ off loading procedure. A fall arresters system must be used and connected to a fixed point.

### A3
- Manually moving load around the truck bed.
  - Strain and sprain injuries
  -Operator/banks man/site staff 4 3 12
  - Where possible all loads shall be positioned on the truck with either a vehicle mounted hi-ah or telehandler/forklift. If a crane is required a lift plan must be utilised.
  - Where mechanically means are not possible due to the load, the weight of the item must be available.
### H&S Consequence, C

<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Persons at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Parked cars</td>
<td>All</td>
<td>5</td>
<td>3</td>
<td>15</td>
<td>The Supervisor shall ensure that access roads, including, if necessary, public roads are cleared of parked cars before vehicles arrive. Movement to be controlled by a competent banksman.</td>
<td>5</td>
</tr>
<tr>
<td>A2</td>
<td>Adverse ground</td>
<td>All</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>Supervisor to confirm on the hazard assessment form that platform is adequate or to arrange for required improvements to be implemented before the work commences.</td>
<td>3</td>
</tr>
<tr>
<td>A3</td>
<td>Vehicle Movements for persons on site.</td>
<td>All</td>
<td>5</td>
<td>3</td>
<td>15</td>
<td>Movement to be controlled by a competent banksman, if visibility is restricted. High visibility clothing must be worn. All lorries reversing need to have a banksman.</td>
<td>5</td>
</tr>
<tr>
<td>A4</td>
<td>Vehicle Movements for pedestrians outside site.</td>
<td>Public</td>
<td>5</td>
<td>3</td>
<td>15</td>
<td>Movement to be controlled by a competent banksman, if visibility is restricted. High visibility clothing must be worn. All lorries reversing need to have a banksman.</td>
<td>5</td>
</tr>
<tr>
<td>B1</td>
<td>Trip Hazards</td>
<td>All</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>Site area to be kept clear of trip hazards.</td>
<td>3</td>
</tr>
<tr>
<td>B2</td>
<td>Adverse ground</td>
<td>Banksman</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td>Supervisor to confirm on site hazard assessment form that platform is adequate or to arrange for required improvements to be implemented before the work commences.</td>
<td>5</td>
</tr>
<tr>
<td>B3</td>
<td>Collision with persons</td>
<td>All</td>
<td>5</td>
<td>3</td>
<td>15</td>
<td>Movement to be controlled by a competent banksman. All other people must be kept clear.</td>
<td>5</td>
</tr>
<tr>
<td>B4</td>
<td>Fall from height</td>
<td>Operatives</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>Cabins to be provided with slings to allow slinging from ground level.</td>
<td>3</td>
</tr>
<tr>
<td>C1</td>
<td>Electrical connections of cabins and other plant.</td>
<td>Electrician</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td>Inspection certificates for internal wiring, plugs and appliances are to be provided when the cabin and its appliances are delivered. All electrical systems shall be installed by the company electrician or by a qualified electrical contractor. On completion of the installation a certificate of installation will be completed. User checks, formal visual checks and combined inspections and tests to be carried out in accordance with the table in the safety instruction: Inspections Of Electrical Equipment On Site.</td>
<td>5</td>
</tr>
<tr>
<td>D1</td>
<td>Crane work in General</td>
<td>Operatives</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Please refer to a separate risk assessment for crane work.</td>
<td>N/A</td>
</tr>
<tr>
<td>E1</td>
<td>Puncture wound from a needle stick</td>
<td>Operatives</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>On site (railway embankments with access for the public alongside parks etc.) where needle sticks might reasonably be expected to be found, a sharp box, tongs and specialist gloves shall be provided. Tool box talks to be given explaining the hazards of needle sticks and the correct procedure for disposal. No person is to touch a needle stick without the required protective clothing. Any person who suffers a needle stick puncture will reasonably be expected to seek medical attention.</td>
<td>4</td>
</tr>
<tr>
<td>E2</td>
<td>Asbestos</td>
<td>Operatives</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>Work is to cease on the discovery of asbestos. The affected area is to be cordoned off. Work is only to recommence upon the written instruction with the correct management systems in place.</td>
<td>4</td>
</tr>
</tbody>
</table>

---

**Legal Consequence**

**Green - Tolerable no further action required**

**Yellow - Tolerable with additional controls**

**Red - Intolerable take immediate action**

---

**Supervisor** to confirm on the hazard assessment form that platform is adequate or to arrange for required improvements to be implemented before the work commences.
<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Persons at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Trip hazards for members of the public</td>
<td>Public</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>Trip hazards to be protected or a man to stand guard. If unloading is occurring after dark, the trip hazard need to be protected or lit. All vehicles reversing must have a competent banksman.</td>
<td>3</td>
</tr>
<tr>
<td>G1</td>
<td>Erecting tower scaffold platforms</td>
<td>Operatives</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Please refer to a separate risk assessment: tower scaffold.</td>
<td>N/A</td>
</tr>
<tr>
<td>H1</td>
<td>Erecting scaffolding</td>
<td>Operatives</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>Scaffolding will be erected by a sub-contractor, from which a risk assessment will be required. Scaffolders must have CPCS cards. Scaffolding to be erected in accordance with the requirements of SG4: The use of fall arrest equipment whilst erecting altering &amp; dismantling scaffolding. All scaffolding is to be inspected weekly by a competent person.</td>
<td>3</td>
</tr>
<tr>
<td>I1</td>
<td>Ladder use inside or outside</td>
<td>Operatives</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Please refer to the risk assessment: use of ladders.</td>
<td>N/A</td>
</tr>
<tr>
<td>J1</td>
<td>Access to site cabins</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K1</td>
<td>Slipping on steps/stairs</td>
<td>All</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>Steps are meant to have an anti-slip surface. In particular, plywood sheeting is to be covered with chicken mesh or similar and must be kept free from mud etc.</td>
<td>3</td>
</tr>
</tbody>
</table>
### H&S Consequence, C
- 1: Minor Injury
- 2: First Aid Injury
- 3: Major Injury
- 4: Permanent Consequence
- 5: Potential Fatality

### Env. Consequence, C
- 1: Minor Impact / operational delay
- 2: Community Complaints
- 3: Major Impact
- 4: Legal Consequence
- 5: Major impact and cost

### Acceptance Criteria
- **Red** - Intolerable take immediate action
- **Yellow** - Tolerable with additional controls
- **Green** - Tolerable no further action required

### Likelihood, L
- 1: Improbable
- 2: Remote
- 3: Possible
- 4: Probable
- 5: Almost Certain

### Hazard
<table>
<thead>
<tr>
<th>Hazard</th>
<th>Degree of Risk</th>
<th>Control measures</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>Site Workers</td>
<td>5 2 10</td>
<td>Only trained and unauthorised person shall use the mobile elevated work platform. Mobile elevated work platform ignition keys to be taken out of the ignition when not in use.</td>
<td>5 1 5  Operator</td>
</tr>
<tr>
<td>A2</td>
<td>Site Workers</td>
<td>5 2 10</td>
<td>All users must carry out pre-use checks daily and fill in the daily plant inspection form. The MEWP must be maintained and serviced as per operators manual. The MEWP SWL must never be exceeded. 6 mthly periodic inspections must be carried out by a trained and competent person.</td>
<td>5 1 5  Operator</td>
</tr>
<tr>
<td>A3</td>
<td>Site Workers</td>
<td>5 3 15</td>
<td>Regular inspections of the work area and traffic routes must be undertaken by the main contractor and Keller site foreman. Route to working area must be in good condition without pot holes. Mobile elevated work platform boom must be in a safe mode position when travelling over a distance.</td>
<td>5 1 5  Principal Contractor/Operator</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>Operator</td>
<td>5 2 10</td>
<td>Only trained operators are allowed to use the MEWP. All persons in the mobile elevated work platform basket shall wear a safety harness secured to a stable point in the basket. Never over reach from the basket, the MEWP must be positioned as close as possible to the item being worked on.</td>
<td>5 1 5  Operator</td>
</tr>
<tr>
<td>B2</td>
<td>Site Worker</td>
<td>5 2 10</td>
<td>The operator must assess the area to be worked in prior to positioning the MEWP. Before the operator moves the mobile elevated work platform a banks man shall be utilised to ensure a clear and safe movement.</td>
<td>5 1 5  Operator</td>
</tr>
<tr>
<td>B3</td>
<td>Site Worker</td>
<td>5 3 15</td>
<td>The on site hazard assessment must make note of any overhead electric cables. If there is the need to work close by to any overhead electric cables, the local electricity provider must be contacted for advice. A request for the Electricity to be switched off and locked out before work is carried out may be required.</td>
<td>5 1 5  Construction Manager / Project Manager</td>
</tr>
<tr>
<td>B4</td>
<td>Site Worker</td>
<td>5 3 15</td>
<td>All equipment within the MEWP is to be properly secured to prevent them falling. All non essential personnel must be kept away from the immediate work area around the augers whilst rigging is in process.</td>
<td>5 1 5  Construction Manager / Project Manager</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>Anyone</td>
<td>4 3 12</td>
<td>Keys must always be removed form all items of plant when the operator is away from the machine. Always lock up machines at night.</td>
<td>4 1 4  Operator</td>
</tr>
<tr>
<td>Task</td>
<td>Hazard</td>
<td>Persons at risk</td>
<td>Degree of risk</td>
<td>Control measures</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>----------------</td>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>A</td>
<td>General Note.</td>
<td></td>
<td></td>
<td>Forklift trucks and telescopic handlers are only to be operated by trained and competent persons. Operatives under training shall be supervised by an authorised employee. Telehandlers are not to be used on the highway unless they are road legal and the operator holds a current UK driving licence. Operator of forklift truck or telescopic handler to wear seat belt. Forklift truck or telescopic handler to have rollover protection.</td>
</tr>
<tr>
<td>B1</td>
<td>Overturning of truck due to inadequate surface.</td>
<td>Operator</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>B2</td>
<td>Overturning of truck on sloping surface.</td>
<td>Operator</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>B3</td>
<td>Overturning truck due to overloading.</td>
<td>Operator</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>B5</td>
<td>Failure of truck or hydraulics.</td>
<td>Operator / site workers</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>B6</td>
<td>Impact or collision.</td>
<td>Operator / site workers</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>B7</td>
<td>Displaced or falling loads.</td>
<td>Operator / site workers</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>B8</td>
<td>Door swinging</td>
<td>Operator / site workers</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>B9</td>
<td>Movement of unattended machine.</td>
<td>Operator / site workers</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Task</td>
<td>Hazard</td>
<td>Persons at risk</td>
<td>Degree of risk</td>
<td>Control measures</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>----------------</td>
<td>---------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>B10</td>
<td>Theft / Vandalism</td>
<td>Operator / site workers / Intruder</td>
<td>4 3 22</td>
<td>Keys must always be removed from all items of plant when the operator is away from the machine. Always lock up machines at night, if available always place shutters over windows and doors.</td>
</tr>
<tr>
<td>B11</td>
<td>Movement of load on ground while slings being attached or removed.</td>
<td>Operator / site workers</td>
<td>3 3 9</td>
<td>Loads to be placed on suitable timbers to allow access for slings to go underneath and chocks, if movement of load is possible, to be used to prevent movement as load is taken by timbers.</td>
</tr>
<tr>
<td>C1</td>
<td>Persons standing on forks or a platform on the folks to work.</td>
<td>Operator / site workers</td>
<td>5 4 20</td>
<td>Working on the folks or any platform other than a purpose built man rider is strictly forbidden at all times. Only trained and competent persons are to operate the man rider. Purpose built man rider to have certificate of thorough examination issued not more than 6 months previously. Daily inspections must be carried out and recorded on the weekly plant inspection form. All operators involved in any quick hitch attachments must be adequately trained and competent.</td>
</tr>
<tr>
<td>D1</td>
<td>Hydraulics and electrical cable damaged or blocked with grit/mud.</td>
<td>Operator / site workers</td>
<td>4 3 22</td>
<td>When not in use the man-riding hydraulic hoses and electrical cable shall be stored in a purpose-made bracket. Man-riding cage shall be stored on level ground, this will enable easy adaptation.</td>
</tr>
<tr>
<td>E1</td>
<td>Adapting quick fit man-rider to telehandler.</td>
<td></td>
<td></td>
<td>General note, For heights greater than 6 meters, a man rider controlled from its platform must be used. Operator to have received training in its use.</td>
</tr>
<tr>
<td>E2</td>
<td>Fault in man-rider.</td>
<td>Operator / site workers</td>
<td>5 3 26</td>
<td>Man-rider to have a 6-month certificate of thorough examination. Foreman to inspect the machine on delivery. Operator to inspect the machine daily before use and to carry out routine servicing in accordance with the operator manual. Daily inspection to be made by operator and recorded on the weekly inspection report.</td>
</tr>
<tr>
<td>E3</td>
<td>Locking pin not engaging.</td>
<td>Operator / site workers</td>
<td>5 3 26</td>
<td>All operators must be trained and competent in quick hitch attachments. Man-rider operator shall ensure that locking pin is engaged in the man rider bracket.</td>
</tr>
<tr>
<td>E4</td>
<td>Incorrect connection of electrical cables/hydraulic pipes.</td>
<td>Operator / site workers</td>
<td>5 3 26</td>
<td>All operators must be trained and competent. All hydraulic pipes and electrical cables shall be connected to enable the man-rider to be operated independently from the telehandler cab controls. Controls on platform to be tested before platform is lifted above the ground.</td>
</tr>
<tr>
<td>F1</td>
<td>Untrained operative positioning telehandler.</td>
<td>Operator / site workers</td>
<td>5 3 26</td>
<td>Only operatives holding a current CPCS card and trained in the use of the remote controlled platform shall operate the telehandler with the platform.</td>
</tr>
<tr>
<td>F2</td>
<td>Over riding or not using hydraulic stabilisers.</td>
<td>Operator / site workers</td>
<td>5 3 26</td>
<td>Hydraulic stabilisers shall be used so that the front wheels are lifted off the ground. Safety measures are in place to make the man-rider un-operative from inside, if the stabilisers are not firmly on the ground.</td>
</tr>
<tr>
<td>G1</td>
<td>Persons operating man rider from telehandler cab.</td>
<td>Operator / site workers</td>
<td>5 3 26</td>
<td>Once in position, telehandler operator shall engage switch in cab to make telehandler controls inactive and the man rider controls active. The man riding basket is only allowed to be controlled by the operator in the basket.</td>
</tr>
<tr>
<td>G2</td>
<td>Untrained person operating the man rider.</td>
<td>Operator / site workers</td>
<td>5 3 26</td>
<td>Only person trained and competent shall operate the quick fit man rider.</td>
</tr>
<tr>
<td>G3</td>
<td>Working on uneven ground or soft ground.</td>
<td>Operator / site workers</td>
<td>5 3 26</td>
<td>Telehandler with quick fit man rider must only be used on a firm and level platform.</td>
</tr>
<tr>
<td>G4</td>
<td>Fall from height.</td>
<td>Operator / site workers</td>
<td>5 3 26</td>
<td>Persons in man rider to wear harness with lanyards clipped to anchor positions provided. The lanyard must be short enough to prevent contact with the ground or other objects. Door to be secured and shut.</td>
</tr>
<tr>
<td>H</td>
<td>Working in slewed position over extended time.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td>Hazard</td>
<td>Persons at risk</td>
<td>Degree of risk</td>
<td>Control measures</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>----------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>H1</td>
<td>Man-riding turned right or left.</td>
<td>Operator / site workers</td>
<td>5 3 RR</td>
<td>Safety pin must be used when the man-riding is turned left or right to stop it from moving, there are purpose-made eye holes on the man-riding and bracket for this function.</td>
</tr>
<tr>
<td>I</td>
<td>Descending/lowering man-riding.</td>
<td>Operator / site workers</td>
<td>5 3 RR</td>
<td>Safety harness shall be worn and persons to remain in the man-riding, until it is safe to disembark. The man-riding operation must only be controlled by the person in the basket.</td>
</tr>
<tr>
<td>J</td>
<td>Use of quick hitch attachments.</td>
<td>Operator / site workers</td>
<td>5 3 RR</td>
<td>Operators to be trained in quick hitch for the particular machine, 6 month through examination certificate required for the attachment.</td>
</tr>
<tr>
<td>K</td>
<td>Use/fitting of forks.</td>
<td>Site Workers</td>
<td>5 3 RR</td>
<td>All persons using the folk mounted hook shall be trained in the correct fitting.</td>
</tr>
<tr>
<td>K2</td>
<td>The fork mounted hook slipping of the folks.</td>
<td>Site Workers</td>
<td>5 1 RR</td>
<td>The folk mounted hook is designed in such a way that when attached to the folk, the locking bar automatically engages behind the folks.</td>
</tr>
<tr>
<td>K3</td>
<td>Using a damaged folk mounted hook.</td>
<td>Site Workers</td>
<td>5 2 RR</td>
<td>The folk mounted hook and frame must be examined before use and weekly. A 6 monthly certification inspection must be carried out by a competent person. If damaged in anyway the folk mounted hook must not be used.</td>
</tr>
<tr>
<td>K5</td>
<td>Manual Handling caused injuries.</td>
<td>Operatives</td>
<td>3 3 RR</td>
<td>All Keller personnel have been trained in the correct procedure when carrying out manual handling. If needed a second or third person must be used to aid any lifting or carrying operations.</td>
</tr>
<tr>
<td>L</td>
<td>Fuel Storage / Refuelling</td>
<td>Environment</td>
<td>5 2 RR</td>
<td>Always store diesel bowser away from any water course and surface water drainage systems. Ensure adequate drip trays and spill kits are located close by. Ensure plant nappies are used when ever filling up items of plant. Ensure diesel bowser are locked when not in use. Only store fuel in appropriate fuel cans. Oil and fuel must be stored with in adequate bunds in the stores units.</td>
</tr>
<tr>
<td>L2</td>
<td>Flammable liquid causing fire</td>
<td>Environment, Site Workers, Members of Public</td>
<td>5 4 RR</td>
<td>Ensure any fuel stored is away from a direct heat source with in an appropriate bowser or fuel can. All refuelling must only be carried out when the item of plant is switched off. Appropriate fire extinguishers must be close by to any item of plant being refuelled. Always ensure the correct PPE is being warn. i.e. Gloves, Overalls, Glasses.</td>
</tr>
<tr>
<td>Task</td>
<td>Hazard</td>
<td>Persons at risk</td>
<td>Degree of risk</td>
<td>Control measures</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>----------------</td>
<td>----------------</td>
<td>------------------</td>
</tr>
<tr>
<td></td>
<td>General Note</td>
<td></td>
<td></td>
<td>Plant operators shall have a CPCS card. All hand tools shall be visually inspected by the user, for damage. PPE to be worn at all times. High Visibility vests, Hearing protection to EN 352-2, hand protection to EN 388 (mechanical hazards) and EN 374-3 (refuelling), protective footwear to EN 345, eye protection to EN166, head protection to EN397.</td>
</tr>
<tr>
<td></td>
<td>A1 Slipping off steps / tracks</td>
<td>Anyone</td>
<td>3 3 9</td>
<td>Anyone climbing onto the machine steps must ensure that the step is in good order and not covered in mud / debris. Any debris on boots should be kicked off prior to climbing up. Check steps not icy during winter months. De-icer is available in work vans. Tools must never be stored on the steps. Use permanent fixtures on rig to grab hold off if necessary to aid climbing up onto tracks. No one is to climb onto back of rig without the handrails being in place. If access is required to the mast then a MEWP or equivalent must be utilised.</td>
</tr>
<tr>
<td></td>
<td>A2 Visual Obstructions</td>
<td>Anyone</td>
<td>3 3 9</td>
<td>Anyone climbing on to machines must remain vigilant and concentrate at all times. Supervisors to carry out daily briefings highlighting any specific hazards.</td>
</tr>
<tr>
<td></td>
<td>A3 Poor Weather conditions</td>
<td>Anyone</td>
<td>3 3 9</td>
<td>Extra care must be taken during heavy wind or rain. Snow must be brushed off prior to climbing. Use de-icer or something equally effective to thaw out any ice when required. Boots must be kicked against tracks prior to climbing.</td>
</tr>
<tr>
<td></td>
<td>A4 Storage of tools on steps</td>
<td>Operatives</td>
<td>3 3 9</td>
<td>Ganger must ensure that no tools are left on the steps. Plant dept. to look at possibility of placing a tool tray in a suitable position to store the hammer, screwdriver, plastic caps, etc.</td>
</tr>
</tbody>
</table>
### Use of Air Compressors

<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Person at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Compressor moving across site.</td>
<td>Site workers</td>
<td>3 3 9</td>
<td>Compressor to be placed on firm, level ground. Hand brake is to be engaged and if necessary, wheels chocked.</td>
<td>3 1 3</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>A2</td>
<td>Blast of air caused by the air valves not being closed.</td>
<td>Site workers</td>
<td>3 3 9</td>
<td>Operator to ensure valves are closed and hoses are connected before start up.</td>
<td>3 1 3</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>A3</td>
<td>Hose disconnecting striking person.</td>
<td>Site workers</td>
<td>5 3 15</td>
<td>Whip checks to be fitted to all connections in the airline. Compressor to be switch off and stored air released before joints are disconnected, end of line remote from compressor must be attached to equipment to be used whilst compressor is running. Air must only be turned off at valve. Ensure non essential personnel are kept away from our work area wherever possible.</td>
<td>5 1 5</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
</tbody>
</table>

### Refuelling

<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Person at risk</th>
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<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Slippery site caused by spillage.</td>
<td>Site workers</td>
<td>3 3 9</td>
<td>All spillages to be immediately cleared up. Drip tray to be placed underneath compressor.</td>
<td>3 1 3</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>B2</td>
<td>Fuel splashing on skin.</td>
<td>Site workers</td>
<td>2 3 6</td>
<td>Persons fuelling compressor to wear rubber gloves, eye protection.</td>
<td>2 1 2</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>B3</td>
<td>Fire.</td>
<td>Site workers</td>
<td>5 3 15</td>
<td>Hot refuelling is prohibited, Refuelling of plant and equipment must only take place when made dead “switched off”,.</td>
<td>5 1 5</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
</tbody>
</table>

### End of shift or prolonged break

<table>
<thead>
<tr>
<th>Task</th>
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<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Leaving compressor running allowing unauthorised use.</td>
<td>Site workers</td>
<td>4 3 12</td>
<td>Compressor to be switch off at end of shift or prolonged breaks; equipment must be locked out preventing the use by unauthorised persons.</td>
<td>4 1 4</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>C2</td>
<td>Air left in receiver when hoses are disconnected.</td>
<td>Operator</td>
<td>4 3 12</td>
<td>Before disconnecting hoses or equipment, operator to ensure that air is purged out of receiver and hose.</td>
<td>4 1 4</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
</tbody>
</table>

### Breakdown of compressor

<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Person at risk</th>
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<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Breakages or Lack of maintenance may run the compressor to destruction</td>
<td>Operator</td>
<td>4 3 12</td>
<td>In order to reduce the risk of injury from a breakdown, the operator shall carry out daily pre-user checks.</td>
<td>4 1 4</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
</tbody>
</table>

### Location of compressor

<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Person at risk</th>
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<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>Noise.</td>
<td>Site workers</td>
<td>4 3 12</td>
<td>Compressor to have a noise rating as low as is reasonable practicable. All operators and persons in the immediate work area must wear suitable ear protection. Persons not wearing ear protection to be excluded from the immediate work area.</td>
<td>4 1 4</td>
<td>Keller employees / sub-contractors</td>
<td>Supervisor</td>
</tr>
<tr>
<td>E2</td>
<td>Fumes.</td>
<td>Site workers</td>
<td>5 3 15</td>
<td>Compressor to be positioned in a well ventilated area. The exhaust should be pointed away from any office, mess room or stores units. If it is necessary to work in an area that is not well ventilated, fume extraction measures are to be provided.</td>
<td>5 1 5</td>
<td>Keller employees / sub-contractors</td>
<td>Supervisor</td>
</tr>
</tbody>
</table>
## H&S Consequence, C

1. Minor Injury
2. First Aid injury
3. Major injury
4. Permanent Consequence
5. Potential Fatality

## Env. Consequence, C

1. Minor Impact / operational delay
2. Community complaints
3. Major Impact
4. Legal Consequence
5. Major impact and cost

## Acceptance Criteria

<table>
<thead>
<tr>
<th>Likelihood, L</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Hazard**

**Person at risk**

**Degree of risk**

<table>
<thead>
<tr>
<th>C</th>
<th>L</th>
<th>RR</th>
</tr>
</thead>
</table>

**Control measures**

**Residual risk**

<table>
<thead>
<tr>
<th>C</th>
<th>L</th>
<th>RR</th>
</tr>
</thead>
</table>

**Person responsible**

**Monitoring responsibility**

**NOTE:** Dumpers are only to be operated by trained and competent persons authorised on the company skills matrix. Operatives shall hold a current CPCS card. Operatives undergoing training shall be supervised by an authorised employee. Never operate the controls unless seated on the machine.
<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>C L RR</td>
<td></td>
<td></td>
<td>5 1 5</td>
<td>5 1 5 Operator / Site Staff</td>
</tr>
<tr>
<td>C3</td>
<td>Harm caused to operator by dumper overturning</td>
<td>5 3 15</td>
<td>Anti roll bar to be fitted to all dumpers. The site speed limits and traffic routes must be adhered to at all times. The dumper must never be used on gradients which are too steep. The dumper must travel on slopes with the load facing uphill. Maximum gradient 1 in 6. Low gear to be engaged when traveling down slopes. If unsure stop and seek clarification from the site supervisor or HSEQ department.</td>
<td>5 1 5 Operator / Site Staff</td>
<td>Construction Manager</td>
<td>Principal Contractor</td>
</tr>
<tr>
<td>C4</td>
<td>Dust</td>
<td>2 4 8</td>
<td>Speeds to be kept down. Supervisor to supervise speeds of dumper during use on site. Dust to be suppressed by main contractor. If the dust cloud becomes dangerous or is hard to control then the dumper work must be stopped until the Principal Contractor has solved the problem. In the yard the road sweeper will carry out regular sweeping operations.</td>
<td>2 2 4 Supervisor / Main Contractor / Yard Foreman / Depot Manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C5</td>
<td>Fall from dumper.</td>
<td>5 3 15</td>
<td>Dumper must be fitted with safety belt which is to be worn while the dumper is moving. Never operated the controls unless seated on the machine.</td>
<td>5 1 5 Operator / Site Staff</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>D1</td>
<td>Theft / Vandalism</td>
<td>5 3 15</td>
<td>Keys must always be removed form all items of plant when the operator is away from the machine. Always lock up machines at night, if available always place shutters over windows and doors.</td>
<td>5 1 5 Operator</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>D2</td>
<td>Dumper rolling way.</td>
<td>5 3 15</td>
<td>Dumper to be parked on flat ground with the handbrake on. Always use stop blocks when tipping into excavations. Allow for wet brakes not working as well as dry brakes.</td>
<td>5 1 5 Operator</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>E1</td>
<td>Fuel Spillage causing pollution</td>
<td>5 2 10</td>
<td>Always store diesel bowser away from any water course and surface water drainage systems. Ensure adequate drip trays and spill kits are located close by. Ensure plant nappies are used when ever filling up items of plant. Ensure diesel bowser are locked when not in use. Only store fuel in appropriate fuel cans. Oil and fuel must be stored with in adequate bunds in the stores units.</td>
<td>5 1 5 Foreman</td>
<td>Foreman / Operator / Banks man</td>
<td>Operator / Banks man</td>
</tr>
<tr>
<td>E2</td>
<td>Flammable liquid causing fire</td>
<td>5 4 20</td>
<td>Ensure any fuel stored is away from a direct heat source with in an appropriate bowser or fuel can. All refuelling must only be carried out when the item of plant is switched off. Appropriate fire extinguishers must be close by to any item of plant being refuelled. Always ensure the correct PPE is being warn. i.e. Gloves, Overalls, Glasses. Fuel must be stored in the correct containers when not being used.</td>
<td>5 1 5 Foreman</td>
<td>Foreman / Operator / Banks man</td>
<td>Operator / Banks man</td>
</tr>
</tbody>
</table>
### Hazard and Consequence Matrix

<table>
<thead>
<tr>
<th>H&amp;S Consequence, C</th>
<th>Env. Consequence, C</th>
<th>Likelihood, L</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Minor Injury</td>
<td>1 Minor Impact / operational</td>
<td>Improbable</td>
<td>1</td>
</tr>
<tr>
<td>2 First Aid injury</td>
<td>2 Community compla</td>
<td>Remote</td>
<td>2</td>
</tr>
<tr>
<td>3 Major Injury</td>
<td>3 Major Impact</td>
<td>Possible</td>
<td>3</td>
</tr>
<tr>
<td>4 Permanent Consequence</td>
<td>4 Legal Consequence</td>
<td>Probable</td>
<td>4</td>
</tr>
<tr>
<td>5 Potential Fatality</td>
<td>5 Major impact and c</td>
<td>5 Almost Certain</td>
<td>5</td>
</tr>
</tbody>
</table>

#### Acceptance Criteria

- **Red - Intolerable take immediate action**
- **Yellow - Tolerable with additional controls**
- **Green - Tolerable no further action required**

## Control Measures

<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Persons at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Use of breaker or scabller.</td>
<td>Site workers</td>
<td>4 4 16</td>
<td>All operators and persons in the immediate work area must wear suitable ear protection. Persons not wearing ear protection to be excluded from the immediate work area, a distance of at least 20 metres from the noise producer.</td>
<td>4 2 8</td>
<td>Main Contractor / Keller employees / subcontractors</td>
<td>Supervisor</td>
</tr>
<tr>
<td>A2</td>
<td>Vibration.</td>
<td>Operator</td>
<td>4 4 16</td>
<td>Scabller to be selected that will give a vibration acceleration dose as low as reasonably possible. If quoted root mean square vibration acceleration level is above 2.5 m/s², then the contract manager shall arrange for the operator to have exposure reduced, e.g. by job rotation, i.e. maximum 10 mins on then 10 mins off. Thermal gloves may be required. Maximum daily dose over eight hours shall not exceed 5.0 m/s². If the daily dose remains above 2.5 m/s², health surveillance to be arranged by the Construction / General Manager.</td>
<td>4 2 8</td>
<td>Keller employees / subcontractors</td>
<td>Supervisor / Construction Manager / General Manager</td>
</tr>
<tr>
<td>A3</td>
<td>Flying particles</td>
<td>Keller Operative</td>
<td>4 3 12</td>
<td>All non essential personnel must be kept away from the immediate area whilst cutting is being carried out. Suitable eye protection must be worn at all times by all personnel whilst cutting is being carried out.</td>
<td>4 1 4</td>
<td>Keller employees / subcontractors</td>
<td>Supervisor</td>
</tr>
<tr>
<td>A4</td>
<td>Inhalation of dust</td>
<td>Site workers</td>
<td>4 3 12</td>
<td>Dust suppression must be used at all times. E.g. Water to dampen down any concrete being cut. Suitable dust mask must be worn when ever there is a risk of dust being produced and inhaled.</td>
<td>4 1 4</td>
<td>Keller employees / subcontractors</td>
<td>Supervisor</td>
</tr>
<tr>
<td>B</td>
<td>Use of air line.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>Breakage of air line.</td>
<td>Site workers</td>
<td>3 2 6</td>
<td>The user shall check the condition daily before use and complete a weekly inspection form for the airline and the tool being used. Whip checks to be fitted to all joints and between the air tool and the line. All non essential personnel should be excluded from the immediate work area.</td>
<td>3 1 3</td>
<td>Keller employees / subcontractors</td>
<td>Supervisor</td>
</tr>
<tr>
<td>B2</td>
<td>Trip Hazard</td>
<td>Site workers</td>
<td>3 3 9</td>
<td>Before commencing on site the Construction Manager must liaise with the Main Contractor to ensure we are provided with a clean and tidy work area with adequate space for unloading. All airlines and leads must be laid to ensure the chance of a trip hazard is minimised, this may require it to be hung in the air or covered over. Good housekeeping practises must be encouraged by Keller site personnel at all times. Rubbish, lifting equipment, re-bar, steel off cuts, etc. must not be allowed to build up.</td>
<td>3 2 6</td>
<td>All Keller employees / Main Contractor and other site workers.</td>
<td>Construction Manager / Supervisor</td>
</tr>
</tbody>
</table>

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**Keller Ltd**

June 2015

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22nd March 2014
<table>
<thead>
<tr>
<th>Task</th>
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<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>C  L  RR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>Noise.</td>
<td>Site workers</td>
<td>4  3</td>
<td>Compressor to have a noise rating as low as is reasonable practicable. All operators and persons in the immediate work area must wear suitable ear protection. Persons not wearing ear protection to be excluded from the immediate work area. (See separate HA use of air compressors)</td>
<td>4  1</td>
<td>Keller employees / subcontractors</td>
<td>Supervisor</td>
</tr>
<tr>
<td>C2</td>
<td>Fumes.</td>
<td>Site workers</td>
<td>5  3</td>
<td>Compressor to be positioned in a well ventilated area. The exhaust should be pointed away from any office, mess room or stores units. If it is necessary to work in an area that is not well ventilated, fume extraction measures are to be provided.</td>
<td>5  1</td>
<td>Keller employees / subcontractors</td>
<td>Supervisor</td>
</tr>
</tbody>
</table>
### Acceptance Criteria

<table>
<thead>
<tr>
<th>Severity</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe</td>
<td>R</td>
<td>R</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Moderate</td>
<td>Y</td>
<td>Y</td>
<td>G</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>Minor</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
<td>G</td>
</tr>
</tbody>
</table>

### Control Measures

#### General Note.

NOTE: Mobile concrete pumps, hired without an operator, are only to be operated by trained and competent persons authorised on the company skills matrix. Operatives under training shall be supervised by an authorised employee. Operators of lorry mounted pumps shall hold a current CPCS Card. Lorries reversing to the mixer areas must always be controlled with a banks man.

### Use of concrete pump.

<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Persons at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Concrete splashes in eyes</td>
<td>Pump Man</td>
<td>4 3 12</td>
<td>Operator to wear suitable eye protection which must prevent splashes entering the eyes whilst working adjacent to pumping area. e.g. (Goggles, Bolle Tracker Glasses, Visor)</td>
<td>4 1 4</td>
<td>Pump Man</td>
<td>Supervisor</td>
</tr>
<tr>
<td>A2</td>
<td>Concrete splashes on skin</td>
<td>Pump Man</td>
<td>2 4 8</td>
<td>Chemical Suits must be available and worn whenever there is a high risk of concrete or grout coming into contact with normal clothing or the skin. Chemical resistant gloves, a long sleeved top and trousers must be worn at all times whilst working with any cement based products. Suitable water tight footwear must be provided and worn at all times. Apply barrier cream before the start of each working shift, reapply after washing hands.</td>
<td>2 1 2</td>
<td>Pump Man</td>
<td>Supervisor</td>
</tr>
<tr>
<td>A3</td>
<td>Moving parts of pump</td>
<td>Pump Man</td>
<td>4 3 12</td>
<td>Supervisor to inspect examination certificate of pump on arrival. Daily inspection to be completed by operator and recorded on the weekly safety inspection which must be The moving part of the drum must be adequately guarded on the top podium to prevent contact with moving parts. Hopper grill to be secured when operating. Engine to be stopped before lifting grill.</td>
<td>4 1 4</td>
<td>Pump Man</td>
<td>Supervisor</td>
</tr>
<tr>
<td>A4</td>
<td>Excessive noise exposure for the operator</td>
<td>Pump Man / Any one close by</td>
<td>4 4 16</td>
<td>Noise levels for all operations have been assessed. Items of plant with average noise levels above 85 dB(A) have Ear Protection Zone signs requiring persons to wear ear protection. Where reasonably practicable, noise reduction methods to be adopted to reduce noise levels.</td>
<td>4 1 4</td>
<td>Pump Man</td>
<td>Supervisor</td>
</tr>
</tbody>
</table>

### B Pumping Concrete.

<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Persons at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Pipe connections parting, during concreting</td>
<td>Any site worker</td>
<td>4 3 12</td>
<td>Couplings to be fitted to all joints. Pipes and couplings, including hose clips and safety chains, or whip checks, to be inspected daily. It is advisable to use pipe protectors or bury concrete hoses where ever possible to reduce the risk of damage caused by vehicles constantly running over the hoses.</td>
<td>4 1 4</td>
<td>Pump Man</td>
<td>Supervisor</td>
</tr>
<tr>
<td>B2</td>
<td>Pipe bursting during concreting</td>
<td>Any site worker</td>
<td>4 3 12</td>
<td>Concrete hoses must be inspected in the yard prior to delivery to site. The pump man must visually inspect the hoses daily and record on the hose inspection form. Site foreman to ensure this is carried out. Plant Dept, to maintain a register. Pipe kinks must be avoided where ever possible. It is advisable to use pipe protectors or bury concrete hoses where ever possible to reduce the risk of damage caused by vehicles constantly running over the hoses.</td>
<td>4 1 4</td>
<td>Pump Man</td>
<td>Supervisor</td>
</tr>
</tbody>
</table>

### C Cleaning hose lines with compressed air.

<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Persons at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Escape of compressed air</td>
<td>Pump Man / Ganger</td>
<td>4 3 12</td>
<td>No couplings are to be undone until the pressure has been released.</td>
<td>4 1 4</td>
<td>Pump Man</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Person</td>
<td>Risk</td>
<td>Degree of risk</td>
<td>Control measures</td>
<td>Persons at risk</td>
<td>Person responsible</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>--------</td>
<td>------</td>
<td>----------------</td>
<td>------------------</td>
<td>----------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Monitor</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>Any site</td>
<td></td>
</tr>
<tr>
<td>Pump / Chamber</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Any site</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>Any site</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>4</td>
<td>1</td>
<td>Any site</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>9</td>
<td>16</td>
<td>4</td>
<td>1</td>
<td>Any site</td>
<td></td>
</tr>
<tr>
<td>Ganger / Pump Man</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>Any site</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>4</td>
<td>1</td>
<td>Any site</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>16</td>
<td>32</td>
<td>4</td>
<td>1</td>
<td>Any site</td>
<td></td>
</tr>
</tbody>
</table>

Moving concrete hoses across the site:

- Use compressed air and blow out cannon to clear a blockage.
- Compressed air and the blow out cannon shall not be used to dislodge a concrete blockage in the line. Any non-essential personal must be excluded from the immediate area.
- Blockages shall be cleared before any compressed air is used to clean out pipelines. Chemical Suits must be available and worn whenever there is a high risk of concrete or grout coming into contact with normal clothing or the skin. Chemical resistant gloves, suitable water tight footwear and a full face visor must be worn.
- Collapsed rubber hose, ball not running through the line.

Cleaning a concrete blockage:

- Ganger / Pump Man
- The person disconnecting the pipe shall only do so if the ball has run through the pump. If the pipe has a kink or is collapsed it shall be straightened to ensure the ball is not trapped in the pipe line.
- The person disconnecting the pump shall only do so if the ball has run through the pump. If the pump has a kink or is collapsed it shall be straightened to ensure the ball is not trapped in the pipe line.
- Suitable Eye protection to prevent concrete entering the eyes must be worn. Methods of containing concrete to be adopted in preferred order.

Closing ball plug out:

- Ganger / Pump Man
- Concrete splashing across site.
- Persons to stand clear. Pressure to be released before pipe coupling is loosened.
### Abrasive Wheels

#### Task
- **Pre-start inspection**
- **Fitting new grinding wheel / stone**
- **Using a faulty grinder**
- **Grinding stone wheel not square or has grooves**
- **Wheel / disc coming off machine**
- **Machine operating causing injury to persons**
- **Contact with the wheel or disc**
- **Fitting incorrect stone, causing the stone to burst**
- **Using the grinder**

#### Acceptance Criteria
- **Red** - Intolerable take immediate action
- **Yellow** - Tolerable with additional controls
- **Green** - Tolerable no further action required

#### Control measures

<table>
<thead>
<tr>
<th>Task</th>
<th>Persons at risk</th>
<th>H&amp;S Consequence, C</th>
<th>Env. Consequence, C</th>
<th>Likelihood, L</th>
<th>Acceptance Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Operator / anyone close by</td>
<td>1 Minor Injury</td>
<td>1 Minor Impact / operational delay</td>
<td>Improbable</td>
<td><strong>RR</strong></td>
</tr>
<tr>
<td>A2</td>
<td>Operator / anyone close by</td>
<td>2 First Aid injury</td>
<td>2 Community complaints</td>
<td>Remote</td>
<td><strong>G</strong></td>
</tr>
<tr>
<td>A3</td>
<td>Operator / anyone close by</td>
<td>3 Major injury</td>
<td>3 Major Impact</td>
<td>Possible</td>
<td><strong>M</strong></td>
</tr>
<tr>
<td>A4</td>
<td>Operator / anyone close by</td>
<td>4 Permanent Consequence</td>
<td>4 Legal Consequence</td>
<td>Probable</td>
<td><strong>G</strong></td>
</tr>
<tr>
<td>A5</td>
<td>Operator / anyone close by</td>
<td>5 Potential Fatality</td>
<td>5 Major impact and cost</td>
<td>Almost Certain</td>
<td><strong>G</strong></td>
</tr>
</tbody>
</table>

#### Degree of risk

<table>
<thead>
<tr>
<th>C</th>
<th>L</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

#### Residual risk

<table>
<thead>
<tr>
<th>C</th>
<th>L</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

#### Person responsible

Supervisor

#### Monitoring responsibility

Keller Ltd

### General Note

Note: Abrasive wheels are only to be operated by trained, competent and authorised personnel only. Operators under training shall be supervised by an authorised employee. Wheels are only to be changed by trained and competent persons.

#### Monitoring:

- HSEQ / Ops teams

#### Prepared by:

- Keller

**Issue Date:**

- Mar-13

**Rev 2 Date:**

- June 2015

**Rev 1 Date:**

- 22nd March 2014

---

**Problem:**

- Abrasive wheels are only to be operated by trained, competent and authorised personnel only. Operators under training shall be supervised by an authorised employee. Wheels are only to be changed by trained and competent persons.

---

**Hazard:**

- Abrasive Wheels

---

**Control measures:**

1. **Pre-start inspection**
   - Operator shall carry out a visual inspection before use. All faults shall be reported to the supervisor. If faults are found the grinder shall be tagged OUT OF ORDER and locked out.

2. **Fitting new grinding wheel / stone**
   - Grindng stone wheel shall be square with the guide rest. Only a trained / competent person may dress the grinding wheel stone, using the correct tool to do so.

3. **Using a faulty grinder**
   - Operator / anyone close by

4. **Grinding stone wheel not square or has grooves**
   - Operator / anyone close by

5. **Wheel / disc coming off machine**
   - Operator / anyone close by

6. **Machine operating causing injury to persons**
   - Operator / anyone close by

7. **Contact with the wheel or disc**
   - Operator / anyone close by

8. **Fitting incorrect stone, causing the stone to burst**
   - Operator / anyone close by

9. **Using the grinder**
   - Operator / anyone close by

---

**Supervisor:**

- Keller Ltd

---

**Person responsible:**

- Operator

---

**Monitoring responsibility:**

- Keller Ltd

---

**Issue Date:**

- Mar-13

**Rev 2 Date:**

- June 2015

**Rev 1 Date:**

- 22nd March 2014
<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Persons at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6</td>
<td>Noise</td>
<td>Operator / anyone close by</td>
<td>4 L 4 RR 16</td>
<td>Suitable ear protection must be worn at all times whilst using abrasive wheels. Anyone working close by must be warned and they must also wear suitable hearing protection.</td>
<td>4 L 1 RR 4</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>C7</td>
<td>Dusts from materials being cut</td>
<td>Operator / anyone close by</td>
<td>4 L 3 RR 12</td>
<td>Dust mask to be worn.</td>
<td>4 L 1 RR 4</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>C8</td>
<td>Vibration</td>
<td>Operator / anyone close by</td>
<td>4 L 3 RR 12</td>
<td>It is recommended that continuous use of grinding activities should not exceed 10 mins. Job rotation with other plant staff should be encouraged. Anyone who has been identified as suffering from early stage HAVs must be assessed by their line manager / Occupational Health as to their compatibility to operate Vibrating machinery.</td>
<td>4 L 1 RR 4</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>C9</td>
<td>Bursting of the wheel or disc due to incorrect wheel/ stone being used</td>
<td>Operator / anyone close by</td>
<td>5 L 2 RR 10</td>
<td>Operator to check machine and wheel before use. Persons fitting the stone shall ensure that the stone is the correct type for the job; this must include checking that the correct revolutions on the stone are correct for the revolution on the machine spindle and that the damper discs are in place on the stone.</td>
<td>5 L 1 RR 5</td>
<td>Operator</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Task</td>
<td>Hazard</td>
<td>Degree of risk</td>
<td>Control measures</td>
<td>Residual risk</td>
<td>Person responsible</td>
<td>Monitoring responsibility</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Maintenance and inspection of plant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>Entrapment by moving plant.</td>
<td>Operator</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>All plant is to be isolated by the removal of keys and the operator controls locked out prior to maintenance/inspection taking place. Signage informing others that maintenance/inspection is taking place should be placed in a prominent position on the cab.</td>
<td>4</td>
</tr>
<tr>
<td>A2</td>
<td>Falls from height.</td>
<td>Operator</td>
<td>5</td>
<td>3</td>
<td>15</td>
<td>Any work at height be from behind suitable fall prevention equipment i.e. permanent handrail system, if this is not in place then the hierarchy of control must be followed, use work equipment or other measures to prevent falls where they cannot avoid working at height; and where the risk of a fall cannot be eliminated, use work equipment or other measures to minimise the distance and consequences should one occur.</td>
<td>5</td>
</tr>
<tr>
<td>A3</td>
<td>Exposure to harmful substances.</td>
<td>Operator</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>All operators must follow the control measures of the associated COSHH assessments and wear the correct PPE as recommended.</td>
<td>4</td>
</tr>
</tbody>
</table>

**General Note**

Note: All maintenance and inspection is to be carried out by competent persons who are trained and are on the company database. All maintenance and inspection is to be carried out as required by the Plant Department and rig manufacturer, following the manufacturer’s operating instructions.

**Operation / Task:** Maintenance and inspection of plant  
**Assessment Ref / Rev:** KL_HA26  
**Location:** Various Sites  
**Department:** Keller  
**Prepared by:**  
**Rev 2 Date:** June 2015  
**Rev 1 Date:** 22nd March 2014  
**Issue Date:** Sep-13  
**H&S Consequence, C**  
1. Minor Injury  
2. First Aid injury  
3. Major injury  
4. Permanent Consequence  
5. Potential Fatality  
**Env. Consequence, C**  
1. Minor Impact / operational delay  
2. Community complaints  
3. Major Impact  
4. Legal Consequence  
5. Major impact and cost  
**Acceptance Criteria**  
1. Minor Injury  
2. First Aid injury  
3. Major injury  
4. Permanent Consequence  
5. Potential Fatality  
**Likelihood, L**  
1. Improbable  
2. Remote  
3. Possible  
4. Probable  
5. Almost Certain  
**Degree of risk**  
1. 1  
2. 2  
3. 3  
4. 4  
5. 5  
**Residual risk**  
1. C  
2. L  
3. RR  
**Person responsible**  
1. Operator  
2. Site supervisor  

**Note:** All maintenance and inspection is to be carried out by competent persons who are trained and are on the company database. All maintenance and inspection is to be carried out as required by the Plant Department and rig manufacturer, following the manufacturer’s operating instructions.
<table>
<thead>
<tr>
<th>Operation / Task</th>
<th>Assessment Ref / Rev</th>
<th>KL_HA27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>Department:</td>
<td>All</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>H&amp;S Consequence, C</th>
<th>Env. Consequence, C</th>
<th>Likelihood, L</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Minor Injury</td>
<td>1 Minor Impact / operational delay</td>
<td>1 Almost Certain</td>
</tr>
<tr>
<td>2 First Aid injury</td>
<td>2 Community complaints</td>
<td>2 Remote</td>
</tr>
<tr>
<td>3 Major injury</td>
<td>3 Major Impact</td>
<td>3 Possible</td>
</tr>
<tr>
<td>4 Permanent Consequence</td>
<td>4 Legal Consequence</td>
<td>4 Probable</td>
</tr>
<tr>
<td>5 Potential Fatality</td>
<td>5 Major impact and cost</td>
<td>5 Almost Certain</td>
</tr>
</tbody>
</table>

### Acceptance Criteria

- **Red** - Intolerable take immediate action
- **Yellow** - Tolerable with additional controls
- **Green** - Tolerable no further action required

<table>
<thead>
<tr>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> Use of welding equipment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sub-task</th>
<th>Hazard</th>
<th>Person at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 Fire and explosion from the ignition of gas cylinders</td>
<td>Welder / Site staff</td>
<td>5 3 10</td>
<td>Gas cylinders and hoses to be checked for leaks, etc. Arc welding equipment to be examined by electrician regularly. Cylinders to be kept upright and secured. Valves to be closed when not in use. Cylinders to be fitted with appropriate regulator and gauge. Flash-back arrestors to be fitted on all lines. Cylinders must be stored in a cool dry place away from any direct heat source.</td>
<td>5 1 5</td>
<td>Welders</td>
<td>Mobile plant manager, site foreman</td>
<td></td>
</tr>
<tr>
<td>A2 Fire from other flammable materials</td>
<td>Welder / Site staff</td>
<td>5 3 10</td>
<td>Hot work permit must be in place prior to carrying out any hot work operations. Flammable materials must be removed from working area. Fire extinguisher must be available and close by at all times. Welder to check condition of welding equipment before use and to ensure that equipment is safe after use. Cutting and welding of drums or tanks that have contained flammable materials is prohibited with out following the appropriate procedure. This must include producing a separate HA in conjunction with the Workshop Manager.</td>
<td>5 1 5</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
<td></td>
</tr>
<tr>
<td>A3 Fumes from rods, coatings and metals.</td>
<td>Welder / Site staff</td>
<td>4 4 10</td>
<td>Welding etc. must be undertaken in well-ventilated areas. Local exhaust ventilation may also be required in certain circumstances to remove fumes. Health checks must be undertaken at set timescales arranged by line management / HR.</td>
<td>4 2 8</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
<td></td>
</tr>
<tr>
<td>A4 Hot metal surfaces.</td>
<td>Welder / Site staff</td>
<td>2 3 6</td>
<td>Hot work permit must be in place prior to carrying out any hot works on site. Welder to exclude other persons from the working area. Barriers and signs may be required. Welder must wear welding gloves.</td>
<td>2 1 2</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
<td></td>
</tr>
<tr>
<td>A5 Fying splatter</td>
<td>Welder / Site staff</td>
<td>3 3 9</td>
<td>Welder to exclude other persons from the working area. Barriers and signs may be required. Welder must wear flame retardant overalls, appropriate apron and welding gloves.</td>
<td>3 1 3</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
<td></td>
</tr>
<tr>
<td>A6 Excessive light/radiation for the welder.</td>
<td>Welder / Site staff</td>
<td>4 4 10</td>
<td>Approved welding. Face shield must be worn by the welder</td>
<td>4 1 4</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
<td></td>
</tr>
<tr>
<td>A7 Excessive light/radiation for others nearby.</td>
<td>Welder / Site staff</td>
<td>4 4 10</td>
<td>Fireproof screens to be placed around working area. Welder to exclude other persons from the working area. Barriers and signs may be required.</td>
<td>4 2 8</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
<td></td>
</tr>
</tbody>
</table>

### B Storage of used hot welding rods.

<table>
<thead>
<tr>
<th>Sub-task</th>
<th>Hazard</th>
<th>Person at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1 Burns / Scalds</td>
<td>Welder / Site staff</td>
<td>2 4 8</td>
<td>Used weld rods should be immediately placed in a small steel bucket or such like receptacle.</td>
<td>2 1 2</td>
<td>Welders</td>
<td>Welder, Supervisor</td>
<td></td>
</tr>
</tbody>
</table>

### C Storage of gas cylinders.

<table>
<thead>
<tr>
<th>Sub-task</th>
<th>Hazard</th>
<th>Person at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 Fire and explosion.</td>
<td>Welder / Site staff</td>
<td>5 3 15</td>
<td>Cylinders must be stored in dedicated locked labelled cages and secured. Cylinders in use in the workshop must be stored on trolleys and isolated when not in use. Any vans carrying gas bottles must be ventilated, carry appropriate fire extinguishers and display the correct hazard warning signs.</td>
<td>5 1 5</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
<td></td>
</tr>
</tbody>
</table>

### D Use of burning gear for cutting steel.

<table>
<thead>
<tr>
<th>Sub-task</th>
<th>Hazard</th>
<th>Person at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
</table>

### General Note.

- A Hot works permit must be issued by the main contractor or a Keller foreman/supervisor before any welding is carried out.

Keller Ltd
<table>
<thead>
<tr>
<th>Task</th>
<th>Hazard</th>
<th>Persons at risk</th>
<th>Degree of risk</th>
<th>Control measures</th>
<th>Residual risk</th>
<th>Person responsible</th>
<th>Monitoring responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Note.</td>
<td></td>
<td></td>
<td>Note: relevant parts of the above assessment for the use of welding equipment shall apply for the use of burning gear except where amended below</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td>Excessive light</td>
<td>Welder / Site staff</td>
<td>4  4  10</td>
<td>Goggles to EN 166 class 3, 4, 9 B fitted with a filter to EN169 to be worn.</td>
<td>4  1  4</td>
<td>Welders</td>
<td>Mobile plant manager, Supervisors</td>
</tr>
</tbody>
</table>
3. COSHH ASSESSMENT FORMS

- CA 03 Antifreeze Concentrate
- CA 04 Antifreeze
- CA 08 Cement, OPC, SR, RHPC
- CA 12 Concrete Mould Oil
- CA 13 Concrete Pump Prima
- CA 14 Concrete Readymix
- CA 22 Diesel Fuel Esso
- CA 47 Multi-Purpose Grease (Electrolube)
- CA 48 Gear Oil XG 80W-90 Q8
- CA 67 Q8 Rembrandt EP 2 - Grease
- CA 69 Q8 T 55 - Lubricating Oil for Transmissions
- CA 71 Environ MV 32, 46 Hydraulic Fluid
- CA 100 Unleaded Petrol
- CA 103 Yellow Linemarker Paint
- CA 108 Adblue
Title: Hazardous Substance (COSHH) Assessment

| Description of product: (Include name) | Shell Rotella ELC Concentrate Antifreeze and coolant. |
| Describe the activity or work process. (Include how long, how often this is carried out, the quantity of substance used, where it is to be used, what it is used for and who by) | Antifreeze coolant used in all internal combustion engines, such as drilling rigs, generators etc. Normally used during servicing and maintenance of engines on plant and equipment within the depot environment. Also used on site if cooling system of plant and equipment requires draining and replenishing after maintenance. Substance normally used by fitters. On average, 2 to 3 litres are used on a full cooling system replenish. Product decanted from container via hand pump or through funnel into engine radiator |

| Identify the persons at risk: Employees (including trainees) | Yes | Contractors | No | Public | No |

| Manufacturer name, address and telephone number. (A copy of a current safety data sheet for this substance should be attached to this assessment) | Name: SOPUS Products  
Address: PO BOX 4427, Houston, TX 77210-4427, USA  
Tel: Spill Information: 877-242-7400  
Health Information: 877-504-9351  
Website: [http://www.shell.com/rotella.html](http://www.shell.com/rotella.html)  
Email: |

| Classification (state the category of danger) | Unstable Explosive | Corrosive | Hazardous to the Aquatic Environment | Flammable | Health Hazard | Oxidising | Acute Toxicity | Gas under pressure | Harmful (Toxic / Irritant) |
| Hazard Type | Gas | Vapour | Mist | Fume | Dust | Liquid | Solid | Other (State) | 
| Route of Exposure | Inhalation | Skin | Eyes | Ingestion | Other (State) | 

| Workplace Exposure Limits (WELs) please indicate n/a where not applicable | Long-term exposure level (8hrTWA): VAPOUR 52mg/ m³ (Ethane-1,2-diol) | Short-term exposure level (15 mins): VAPOUR 104mg/m³ (Ethane-1,2-diol) |

| State the Risks to Health from Identified Hazards | Inhalation: Slightly irritating to respiratory system. Skin Contact: May cause moderate irritation to skin.  
Eye Contact: Moderately irritating to eyes. Ingestion: Harmful if swallowed. May cause acidosis, cardiopulmonary and kidney effects. Ingestion may cause drowsiness and dizziness.  
Other Information: Possibility of organ or organ system damage from prolonged exposure  
Intentional abuse, misuse or other massive exposure may cause multiple organ damage and or death.  
Aggravated Medical Conditions: Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Kidney. Cardiovascular system.  
Control Measures: (e.g. ventilation, training, supervision) | Ensure product is pumped into plant / engine cooling systems where possible. If not possible, use small container sizes to replenish the coolant system. Ensure good industrial hygiene practise is carried out before and after use and the identified PPE identified is worn during product handling and replenishing. |
Is health surveillance or monitoring required? Yes ☑  No

**Personal Protective Equipment (state type and standard)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Visor</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Respirator</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Goggles</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>Safety glasses</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>EN 374 Nitrile Gloves</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>Overalls</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>Good general ventilation is required</td>
<td>☑</td>
<td>☐</td>
</tr>
</tbody>
</table>

**First Aid Measures**

Eye contact: Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Ingestion: DO NOT DELAY. If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Inhalation: Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

Skin contact: Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

**Storage**

Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closable containers. Store at ambient temperature.

**Transport**

If transport to site required, ensure containers are in good condition, lid is tightly closed and containers are suitably secured within the vehicle so as to prevent sudden movement and impact where spillage may occur.

**Fire fighting**

**Suitable Extinguishing Media**: Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

**Unsuitable Extinguishing Media**: Do not use water in a jet.

**Protective Equipment for Firefighters**: Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

**Spillage**

**Protective measures**: Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

**Clean Up Methods**: Do not flush away residues with water. Retain as contaminated waste. For small liquid spills, transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

**Disposal of Substances & Contaminated Containers**

**Material Disposal**: Recover or recycle if possible. Do not dispose into the environment, in drains or in water courses.

**Local Legislation**: Disposal should be in accordance with applicable regulations.
<table>
<thead>
<tr>
<th>Is exposure adequately controlled?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

### Risk Rating Following Control Measures

<table>
<thead>
<tr>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>
**Title** | Hazardous Substance (COSHH) Risk Assessment
---|---
**Document Type** | Assessment
**Revision** | -/2013/10/08
**Document ID** | CA_04
**Form Number** | 1-3.1K_F1
**Page** | 1 of 2

**Description of product:**  
(Include name)  
Antifreeze

**Describe the activity or work process:**  
(Include how long, how often this is carried out, the quantity of substance used, where it is to be used, what it is used for and who by)  
Antifreeze and coolant for engines and industrial equipment

**Identify the persons at risk:**  
Employees (including trainees)  
✓

**Manufacturer name, address and telephone number. (A copy of a current safety data sheet for this substance should be attached to this assessment)**  
Name: Kuwait Petroleum International Lubricants (UK) Ltd  
Address: Knowsthorpe Gate, Cross Green Industrial Estate, Leeds, LS9 0NP  
United Kingdom  
Tel: 01132 350555  
Fax: 01332 485026  
Back up Supplier:  
Name: Tetrosyl Limited  
Address: Bevis Green Works, Walmersley, Bury, BL9 6RE  
Tel: 01617 64581  
Fax: 01617 975899

**Classification (state the category of danger)**

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Gas</th>
<th>Vapour</th>
<th>Mist</th>
<th>Fume</th>
<th>Dust</th>
<th>Liquid</th>
<th>Solid</th>
<th>Other</th>
<th>(State)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unstable Explosive</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammable</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidising</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrosive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harmful (Toxic / Irritant)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Hazard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazardous to the Aquatic Environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute Toxicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas under pressure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Hazard Type**

- ✓ Gas
- ✔ Vapour
- Mist
- Fume
- Dust
- Liquid
- Solid
- Other (State)

**Route of Exposure**

- Inhalation ✓
- Skin
- Eyes ✓
- Ingestion ✓
- Other (State)

**Workplace Exposure Limits (WELs) please indicate n/a where not applicable**

<table>
<thead>
<tr>
<th>Long-term exposure level (8hr TWA):</th>
<th>Ethanediol</th>
<th>10 mg/m3 (sk) Through Skin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term exposure level (15 mins):</td>
<td>104 mg/m3 (sk) Through Skin</td>
<td></td>
</tr>
</tbody>
</table>

**State the Risks to Health from Identified Hazards**

Harmful if swallowed

**Control Measures: (e.g. ventilation, training, supervision)**

Ensure funnels are used when dispensing into recepticle mouth of coolant system or where possible use hand pump from main container to minimise risk of spillage and splashes  
Ensure containers come in suitable sizes with regards to manual handling and ease of pouring into receptacles etc
<table>
<thead>
<tr>
<th>Personal Protective Equipment (state type and standard)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td>Visor</td>
<td>Safety glasses are to be worn to EN166 Field of Use 3 Protection against liquids (droplets or splashes) when filling recepticles on cooling systems</td>
<td></td>
</tr>
<tr>
<td>Respirator</td>
<td>Goggles</td>
<td>Overalls are to be worn should the task/risks require them.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gloves</td>
<td>Overalls</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Footwear</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Suitble footwear required</td>
<td>Good general ventilation is required</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**First Aid Measures**

**Eye contact**: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Ingestion**: wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep persson warm and at rest. Have conscious person drink several glasses of water or milk. Induce vomiting, head should be kept low so vomit doesn’t enter the lungs. The poduct contains BITREX. Never give anything by mouth to an unconscious person. Place them in the recovery position and get medical attention immediately. Maintain an open airway and loosen tight clothing.

**Inhalation**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing is irregular or if respratory arrest occurs provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth to mouth resuscitaion. Get medical attention and maintain an open airway. Loosen tight clothing.

**Skin contact**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Storage**

Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, and food and drink. Keep container tightly closed and sealed until ready for use. Keep opened containers upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

**Transport**

The product is not covered by the international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID)

**Fire fighting**

Use dry chemical, CO2 alcohol-resistantfoam or water spray (fog). Do NOT use water. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Spillage**

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Always approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas.

**Disposal of Substances & Contaminated Containers**

Dispose of via a licensed waste disposal contractor.

<table>
<thead>
<tr>
<th>Is exposure adequately controlled?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Rating Following Control Measures</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Title: Hazardous Substance (COSHH) Risk Assessment

<table>
<thead>
<tr>
<th>Description of product:</th>
<th>Cement, OPC, SR, RHPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the activity or work process.</td>
<td>Cement is used as an ingredient of grout, which is then pumped into holes drilled in the grout or into cavities behind structures. It is mixed in grout mixers. It’s stored in bag form and in bulk in silos</td>
</tr>
</tbody>
</table>

Identify the persons at risk: Employees [✓]  Contractors [☐] Public [☐]

Manufacturer name, address and telephone number. (A copy of a current safety data sheet for this substance should be attached to this assessment)
Name: Castle Cement Limited
Address: Park Square, 3160 Solihull Parkway, Birmingham Business Park, Birmingham, B37 7YN
Tel: 08457 227853
Fax: 01780 727154

Classification (state the category of danger)
- Unstable Explosive [☐]
- Corrosive [☐]
- Flammable [☐]
- Harmful (Toxic / Irritant) [☐]
- Oxidising [☐]
- Health Hazard [✓]
- Gas under pressure [☐]
- Hazardous to the Aquatic Environment [☐]
- Acute Toxicity [☐]

Hazard Type
- Gas [☐]
- Vapour [☐]
- Mist [☐]
- Fume [☐]
- Dust [✓]
- Liquid [☐]
- Solid [☐]
- Other (State) [☐]

Route of Exposure
- Inhalation [✓]
- Skin [✓]
- Eyes [✓]
- Ingestion [✓]
- Other (State) [☐]

Workplace Exposure Limits (WELs) please indicate n/a where not applicable
- Long-term exposure level (8hrTWA): 10mg/m³ total inhalable dust, 4mg/m³ respirable dust.
- Short-term exposure level (15 mins): [☐]

State the Risks to Health from Identified Hazards
Risk of serious damage to eyes, contact with wet concrete or wet mortar may cause irritation, dermatitis or burns.

Control Measures: (e.g. ventilation, training, supervision)
- Ensure plant & equipment is maintained in accordance with manufacturers instructions
- Ensure concrete pump lines are inspected and recorded on a weekly basis
- Ensure good hygiene practices are maintained by effective supervision and information and training
- Ensure task specific PPE is used and maintained as and when required
Is health surveillance or monitoring required?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

**Personal Protective Equipment (state type and standard)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Type and Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td>Dusk Mask to EN 149 types FFP2S</td>
</tr>
<tr>
<td>Visor</td>
<td></td>
</tr>
<tr>
<td>Respirator</td>
<td></td>
</tr>
<tr>
<td>Safety Glasses</td>
<td>Safety Glasses to EN 166 class F</td>
</tr>
<tr>
<td>Goggles</td>
<td></td>
</tr>
<tr>
<td>Gloves or Gauntlets</td>
<td>Gloves or Gauntlets must be worn</td>
</tr>
<tr>
<td>Overalls</td>
<td>Overalls with long sleeves, full length trousers</td>
</tr>
<tr>
<td>Footwear</td>
<td>Waterproof Boots</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

**First Aid Measures**

- **Eye contact:** A quick response is essential to avoid permanent damage to the eyes. Wash eyes immediately with plenty of clean water for at least 15 minutes and seek medical advice without delay.

- **Ingestion:** Do not induce vomiting. Wash out mouth with water and give the patient plenty of water to drink.

- **Inhalation:** If irritation occurs, move to fresh air. If nose or airways become inflamed seek medical advice.

- **Skin contact:** Wash the affected area thoroughly with soap and water before continuing. If irritation, pain or other skin trouble occurs seek medical advice. Contaminated clothing should be washed thoroughly before re-used.

**Storage**

Keep out of reach of children, to be kept clear of the ground and in cool dry conditions. Bulk cement must be kept in silos that are waterproof, clean and protected from contamination.

**Transport**

Cement is not covered by the international regulation of transport of dangerous goods (IMDG, IATA, ADR/RID) no classification is required.

**Firefighting**

Cements are non-flammable and non-explosive. They will not facilitate combustion with other materials and all types of extinguishing media are suitable.

**Spillage:**

Recover the spillage in a dry state if possible. Minimise generation of airborne dust. The product can be slurried by the addition of water but will subsequently set as a hard material. Keep children away from the clean-up operation.

**Disposal of Substances & Contaminated Containers**

Dispose of empty bags or surplus cement to a place authorised to accept builders waste. Keep out of reach or children.

Is exposure adequately controlled?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

**Risk Rating Following Control Measures**

<table>
<thead>
<tr>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
Description of product: Concrete Mould Oil

Describe the activity or work process. Used in concrete cube making process to prevent sticking

 Identify the persons at risk: Employees ✓ Contractors □ Public □

Manufacturer name, address and telephone number. Name: Direct Chemicals
Address: P.O Box 3786, Bracknell, Berkshire, RG12 7TH
Tel: 01189 892666 Fax: 01189 890929 WEB: www.dichem.co.uk

Classification (state the category of danger)

- Unstable Explosive □
- Flammable □
- Oxidising □
- Corrosive □
- Harmful (Toxic / Irritant) ✓
- Health Hazard □
- Gas under pressure □
- Hazardous to the Aquatic Environment □

Hazard Type

- Gas □
- Vapour ✓
- Mist □
- Fume □
- Dust ✓
- Liquid □
- Solid □
- Other (State) ✓

Route of Exposure

- Inhalation □
- Skin ✓
- Eyes ✓
- Ingestion ✓
- Other (State) □

Workplace Exposure Limits (WELs) please indicate n/a where not applicable

Long-term exposure level (8hrTWA): Petroleum Distillate 5mg/m3
Short-term exposure level (15 mins): Petroleum Distillate 10mg/m3

State the Risks to Health from Identified Hazards

R65: Harmful may cause lung damage if swallowed.
R66: Repeated exposure may cause skin dryness or cracking.

Control Measures: (e.g. ventilation, training, superviso)

Use in a well ventilated area.
Apply by brushing.
Wear oil resistant gloves and safety glasses.

Is health surveillance or monitoring required? Yes □ No ✓

Personal Protective Equipment (state type and standard)
Dust mask | □ | Visor | □
Respirator | □ | Standard protective equipment | □
Goggles | ✓ | Standard protective equipment | ✓
Gloves | ✓ | Standard protective equipment | ✓
Footwear | ✓ | Standard protective equipment | ✓
Other | □

First Aid Measures
Eye contact: Flush with plenty of clean water for at least 15 minutes. If irritation persists obtain medical attention.

Ingestion: Milk or water to drink may be beneficial. Do not induce vomiting without medical advice. Aspiration hazard may cause rapid absorption via lungs, resulting in injury to other body systems. Do not induce vomiting without medical advice.

Inhalation: Remove to fresh air – if symptoms persist seek medical advice.

Skin contact: Wash off with soap and water. The application of skin reconditioning cream (emollient) can be beneficial.

Storage
Store between 10-35°C, store in mild steel, stainless steel or polyethylene. Store in a cool dry place away from heat or sources of combustion.

Transport
The product is not classified as hazardous for transport.

Fire fighting
Not classes as flammable but inherently combustible. If involved in fire may emit noxious fumes. Fire fighters should enter area wearing breathing apparatus.

Spillage:
Soak liquid in absorbent material and collect solids in a container. Wash down floor area as spillage can be slippery. Dispose only in accordance with Local Authority Regulations, via an authorised waste disposal agent.

Disposal of Substances & Contaminated Containers
Product should be disposed of via an authorised waste disposal contractor in accordance with all local and national regulations. Wash out containers with water, running the washings to sewage treatment plant system. Dispose of empty containers in accordance with local and national regulations.

Advice can be obtained from the Waste Regulation Authority whether special waste regulations apply to this product.

Is exposure adequately controlled? | Yes | ✓ | No | □

Risk Rating Following Control Measures
| High | □ | Medium | □ | Low | ✓ |
**Title**: Hazardous Substance (COSHH) Assessment

**Description of product:**
Concrete Pump Primer (Prime-a-Pump)

**Describe the activity or work process.**
Primes concrete pump prior to pumping. A powder mixture of lubricant, gelling agent, and buffer. The product is supplied in a plastic milk bottle style container and comes in a powder form. Two sizes of bottle are available: 225g and 450g. A small bottle of Prime-a-Pump is simply emptied and stirred into 15ltrs of water, left for 15 minutes to thicken prior to the start of pumping operations. During this time, the mixture thickens and takes on a slippery texture, which adheres to all the pump’s internal surfaces once it is applied. Used and applied at the start of each shift.

**Identify the persons at risk:**
- Employees (including trainees)
- Contractors
- Public

**Manufacturer name, address and telephone number.**
Name: Landsdowne Products Ltd
Address: Tollgate House, Crossroads, Pen-y-cefn, Caerwys, Flintshire, CH7 5BP
Tel: 0845 300 8073
Website: www.landsdowneproducts.co.uk
Email: info@lansdowneproducts.co.uk

**Classification (state the category of danger)**

- Unstable Explosive
- Corrosive
- Hazardous to the Aquatic Environment
- Flammable
- Harmful (Toxic / Irritant)
- Acute Toxicity
- Oxidising
- Gas under pressure
- Health Hazard
- Gel state after mixing

**Hazard Type**
- Gas
- Vapour
- Mist
- Fume
- Dust
- Liquid
- Solid
- Other (State) Gel state after mixing

**Route of Exposure**
- Inhalation
- Skin
- Eyes
- Ingestion
- Other (State)

**Workplace Exposure Limits (WELs) please indicate n/a where not applicable**
- Long-term exposure level (8hrTWA): N/A
- Short-term exposure level (15 mins): N/A

**State the Risks to Health from Identified Hazards**
- Breathing in dust when mixing with water
- Being splashed with product when mixing with water
- Ingestion if good industrial hygiene practises not carried out

**Control Measures: (e.g. ventilation, training, supervision)**
- Handle and mix in well ventilated areas
- Avoid excessive dust by pouring into water at a steady rate
**Is health surveillance or monitoring required?**

Yes [✓] No

**Personal Protective Equipment (state type and standard)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td>FFP3 Disposable or Reusable after Face Fit training when mixing powder product with water.</td>
</tr>
<tr>
<td>Visor</td>
<td>Safety glasses are to be worn to EN166 Field of Use 3 Protection against liquids (droplets or splashes) when carrying out mixing and pouring operations.</td>
</tr>
<tr>
<td>Respirator</td>
<td></td>
</tr>
<tr>
<td>Goggles</td>
<td></td>
</tr>
<tr>
<td>Gloves</td>
<td>Suitable gloves are to be worn to prevent skin contact</td>
</tr>
<tr>
<td>Overalls</td>
<td></td>
</tr>
<tr>
<td>Footwear</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

**First Aid Measures**

- **Eye contact:** Immediately wash eye for approx. 15 minutes.
- **Ingestion:** Rinse out mouth with water and give plenty of water to drink. Do not induce vomiting. Seek medical attention.
- **Inhalation:** Rinse out mouth with water and give water to drink. Do not induce vomiting.
- **Skin contact:** Wash with plenty of water and remove contaminated clothing.

**Storage**

Ambient temperatures and dry conditions

**Transport**

Not classified as hazardous for transport

**Fire fighting**

Not combustible

**Spillage:**

Minor spill - wash to drain. Major spill - sweep up avoiding dust and wash spill area with plenty of water.

**Disposal of Substances & Contaminated Containers**

Via an authorised disposal agent to an approved disposal site.

**Is exposure adequately controlled?**

Yes [✓] No

**Risk Rating Following Control Measures**

- High
- Medium
- Low [✓]
### Description of product:

**Concrete Ready-mix**

**Describe the activity or work process.**

*Used for constructing foundations for various wall systems and other general uses around site.*

### Identify the persons at risk:

- **Employees (including trainees)** ✓
- **Contractors** ✓
- **Public** □

**Manufacturer name, address and telephone number.**

*Name:* Tarmac Central Limited  
*Address:* Tunstead House, Buxton, SK17 8TG  
*Tel:* 01298 768555

### Classification (state the category of danger)

- [ ] Unstable Explosive
- [ ] Corrosive
- [ ] Hazardous to the Aquatic Environment
- [ ] Flammable
- [ ] Harmful (Toxic / Irritant)
- [ ] Acute Toxicity
- [ ] Oxidising
- [ ] Health Hazard
- [ ] Gas under pressure

### Hazard Type

- [ ] Gas
- [ ] Vapour
- [ ] Mist
- [ ] Fume
- [ ] Dust
- [ ] Liquid
- [ ] Solid
- [ ] Other (State) □

**Route of Exposure**

- [✓] Inhalation
- [✓] Skin
- [✓] Eyes
- [✓] Ingestion
- [ ] Other (State) □

**Workplace Exposure Limits (WELs) please indicate n/a where not applicable**

**Long-term exposure level (8hrTWA):**

- Total Dust (Inhalable) 10mg/m³
- Respirable Dust 4mg/m³
- Respirable Quartz Crystalline Silica SiO₂ 0.1mg/m³

**Short-term exposure level (15 mins):**

**State the Risks to Health from Identified Hazards**

- Inhalation of dust during mixing operations and maintenance of plant and worksite (cleaning off of dried cement)
- Alkali burns if in contact with skin.
- Irritant and allergic dermatitis if in contact with skin.
- Irritation of nose and throat.

**Control Measures: (e.g. ventilation, training, supervision)**

- Ensure plant & equipment is maintained in accordance with manufacturers instructions.
- Ensure concrete pump lines are inspected and recorded on a weekly basis.
- Ensure good hygiene practices are maintained by effective supervision and information and training.
- Ensure task specific PPE is used and maintained as and when required.
Is health surveillance or monitoring required?  
✅ Yes  ☐ No  

### Personal Protective Equipment (state type and standard)

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Type</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td>FFP3</td>
<td></td>
</tr>
<tr>
<td>Visor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respirator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goggles</td>
<td></td>
<td>Safety glasses are to be worn to EN166 Field of Use 3 Protection against liquids (droplets or splashes)</td>
</tr>
<tr>
<td>Gloves</td>
<td>EN374 if directly handling wet cement</td>
<td>To EN 13982-1-2004</td>
</tr>
<tr>
<td>Overalls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Footwear</td>
<td>Safety Wellington Boots</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### First Aid Measures

**Eye contact:**  Flush eyes with water for 15 minutes and seek medical attention.

**Ingestion:**  Remove to fresh air. If person is conscious, rinse out mouth and give water to drink. Seek medical advice

**Inhalation:**  Remove from the dusty area to fresh air and seek medical advice

**Skin contact:**  Wash skin with plenty of soap and water, remove contaminated clothing. Seek medical advice in the case of persistent or severe irritation.

### Storage

Ready mixed concrete is normally used upon receipt. Hardening process can be delayed with additions and/or mixtures. Unauthorised use of additives should be prevented.

### Transport

Not classified as dangerous for transport.

### Fire fighting

Concrete is non-flammable and is not combustible.

### Spillage

Prevent from entering drains. Clean up spillages before they dry.

### Disposal of Substances & Contaminated Containers

Dispose of to an authorised tip.

Is exposure adequately controlled?  
✅ Yes  ☐ No  

### Risk Rating Following Control Measures

<table>
<thead>
<tr>
<th>Level</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td></td>
</tr>
</tbody>
</table>
# Hazardous Substance (COSHH) Risk Assessment

**Document Type:** Assessment  
**Revision:** /2013/10/10  
**Document ID:** CA_22  
**Form Number:** 1-3.1K_F1  
**Page:** 1 of 3

## Description of product:

(Include name)

Diesel

## Describe the activity or work process.

(Include how long, how often this is carried out, the quantity of substance used, where it is to be used, what it is used for and who by)

Diesel bowser is required on site to refuel plant and equipment

## Identify the persons at risk:

<table>
<thead>
<tr>
<th>Employees (including trainees)</th>
<th>Contractors</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

## Manufacturer name, address and telephone number.

(A copy of a current safety data sheet for this substance should be attached to this assessment)

Name: Esso Petroleum Company Ltd  
Address: Ermyn Wy, ExxonMobil House, Leatherhead, Surrey, KT22 8UX  
Tel: 01372 222 000  
Email / Website: sds.uk@exxonmobil.com

## Classification (state the category of danger)

- Unstable Explosive
- Flammable
- Oxidising
- Corrosive
- Harmful (Toxic / Irritant)
- Hazardous to the Aquatic Environment
- Acute Toxicity
- Gas under pressure

## Hazard Type

<table>
<thead>
<tr>
<th>Gas</th>
<th>Vapour</th>
<th>Mist</th>
<th>Fume</th>
<th>Dust</th>
<th>Liquid</th>
<th>Solid</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Route of Exposure

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>Skin</th>
<th>Eyes</th>
<th>Ingestion</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

## Workplace Exposure Limits (WELs) please indicate n/a where not applicable

- **Long-term exposure level (8hrTWA):**  
  Fuels, diesel , No 2 Stable Aerosol: 5mg/m3  
  Fuels, diesel , No 2 Vapour 200mg/m3

- **Short-term exposure level (15 mins):**

## State the Risks to Health from Identified Hazards

May cause central nervous system depression. High-pressure injection under skin may cause serious damage. Under conditions of poor personal hygiene and prolonged repeated contact, some polycyclic aromatic compounds (PACs) have been suspected as a cause of skin cancer in humans. May be irritating to the eyes, nose, throat, and lungs.

## Control Measures: (e.g. ventilation, training, supervision)

Avoid all personal contact. Do not siphon by mouth. Do not use as a cleaning solvent or other non-motor fuel uses. For use as a motor fuel only. It is dangerous and/or unlawful to put petrol into unapproved containers. Do not fill container while it is in or on a vehicle. Static electricity may ignite vapour and cause fire. Place container on ground when filling and keep nozzle in contact with container. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices etc.) in or around any fuelling operation or storage area unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards.
for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions ARISING out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

<table>
<thead>
<tr>
<th>Is health surveillance or monitoring required?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

**Personal Protective Equipment (state type and standard)**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Type and Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td>☐</td>
</tr>
<tr>
<td>Visor</td>
<td>☐</td>
</tr>
<tr>
<td>Respirator</td>
<td>☐</td>
</tr>
<tr>
<td>Impervious gloves</td>
<td>☑</td>
</tr>
<tr>
<td>Goggles</td>
<td>☑</td>
</tr>
<tr>
<td>Safety glasses</td>
<td>☑</td>
</tr>
<tr>
<td>Overalls</td>
<td>☐</td>
</tr>
<tr>
<td>Footwear</td>
<td>☐</td>
</tr>
<tr>
<td>Other</td>
<td>☐</td>
</tr>
</tbody>
</table>

**First Aid Measures**

**Eye contact:** Flush thoroughly with water. If irritation occurs, get medical assistance.

**Ingestion:** Seek immediate medical attention. Do not induce vomiting.

**Inhalation:** Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

**Skin contact:** Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

**Storage**

The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be earthed and bonded to prevent accumulation of static charge. Keep away from incompatible materials.

**Transport**

Only transport in approved receptacles.

**Fire fighting**

**EXTINGUISHING MEDIA**

Suitable Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames. Unsuitable Extinguishing Media: Straight streams of water.

**SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:** Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulphur oxides, Incomplete combustion products, Oxides of carbon.

**ADVICE FOR FIRE FIGHTERS:** Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Spillage:**

**NOTIFICATION PROCEDURES:** In the event of a spill or accidental release, notify relevant authorities in accordance with all...
PROTECTIVE MEASURES: Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polychloroprene (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

ENVIRONMENTAL PRECAUTIONS: Large Spills, Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP: Land Spill, Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. Vapour-suppressing foam may be used to reduce vapour. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapour, but may not prevent ignition in enclosed spaces.

Water Spill: Stop leak if you can do so without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 deg C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants. Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

Disposal of Substances & Contaminated Containers
Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

WASTE TREATMENT METHODS, Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION: European Waste Code: 13 07 01*

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s). This material is considered as hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. Do not pressurise, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity or other sources of ignition. They may explode and cause injury or death.

<table>
<thead>
<tr>
<th>Is exposure adequately controlled?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Rating Following Control Measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
</tbody>
</table>
## Description of product:
(Multi-purpose grease)

**Describe the activity or work process.**
(Multi-purpose grease for use on moving and bearing surfaces on items of plant and equipment. Used during planned and reactive maintenance operations)

### Identify the persons at risk:
- Employees
- Contractors
- Public

**Manufacturer name, address and telephone number.**
(A copy of a current safety data sheet for this substance should be attached to this assessment)

Name: ELECTROLUBE. A division of HK WENTWORTH LTD  
Address: ASHBY PARK, COALFIELD WAY, ASHBY DE LA ZOUCH, LEICESTERSHIRE LE65 1JF  
UNITED KINGDOM  
Tel: +44 (0)1530 419600  
Email / Website: info@hkw.co.uk

### Classification (state the category of danger)

- Unstable Explosive
- Flammable
- Oxidising
- Corrosive
- Health Hazard
- Harmful (Toxic / Irritant)
- Gas under pressure

### Hazard Type

- Gas
- Vapour
- Mist
- Fume
- Dust
- Liquid
- Solid
- Other (State)
- Semi solid grease

### Route of Exposure

- Inhalation
- Skin
- Eyes
- Ingestion
- Other (State)

### Workplace Exposure Limits (WELs) please indicate n/a where not applicable

- Long-term exposure level (8hrTWA): N/A
- Short-term exposure level (15 mins): N/A

### State the Risks to Health from Identified Hazards

Not regarded as a health or environmental hazard under current legislation. Prolonged or repeated exposure on skin may cause severe irritation / dermatitis

### Control Measures: (e.g. ventilation, training, supervision)

**ENGINEERING MEASURES**
All handling to take place in well-ventilated area.
HAND PROTECTION
Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

EYE PROTECTION
If risk of splashing, wear safety goggles or face shield.

OTHER PROTECTION
Wear appropriate clothing to prevent any possibility of skin contact.

HYGIENE MEASURES
DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

Is health surveillance or monitoring required?

| Yes | No |

**Personal Protective Equipment (state type and standard)**

<table>
<thead>
<tr>
<th>Dust mask</th>
<th>Visor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respirator</th>
<th>Goggles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard mandatory light eye protection</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gloves</th>
<th>Overalls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latex glove or similar</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Footwear</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**First Aid Measures**

Eye contact: Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Ingestion: Rinse mouth thoroughly. Drink plenty of water. Get medical attention.

Inhalation: n/a

Skin contact: Wash the skin immediately with soap and water. Get medical attention if irritation persists after washing.

**Storage**
Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

**Transport**
The product is not covered by international regulation on the transport of dangerous goods.

**Fire fighting**

EXTINGUISHING MEDIA: Extinguish with foam, carbon dioxide, dry powder or water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Use water to keep fire exposed containers cool and disperse vapours. Water spray may be used to flush spills away from exposures and dilute spills to non-flammable mixtures.

UNUSUAL FIRE & EXPLOSION HAZARDS: No unusual fire or explosion hazards noted.

PROTECTIVE MEASURES IN FIRE: Self contained breathing apparatus and full protective clothing must be worn in case of fire.

**Spillage**
Absorb in vermiculite, dry sand or earth and place into containers. Flush with plenty of water to clean spillage area.
### Disposal of Substances & Contaminated Containers

Dispose of waste and residues in accordance with local authority requirements.

<table>
<thead>
<tr>
<th>Is exposure adequately controlled?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Rating Following Control Measures</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>![Check]</td>
<td>![Blank]</td>
</tr>
</tbody>
</table>
### Description of product:
*(Include name)*

Multi-Purpose Grease

### Describe the activity or work process.
*(Include how long, how often this is carried out, the quantity of substance used, where it is to be used, what it is used for and who by)*

Used to lubricate joints on plant and equipment

### Identify the persons at risk:
*(Employees (including trainees)  □  Contractors  □  Public  □)*

- Employees
- Contractors
- Public

### Manufacturer name, address and telephone number.
*(A copy of a current safety data sheet for this substance should be attached to this assessment)*

Name: Granvillie Oil & Chemicals Ltd  
Address: 29 Goldthorpe Industrial Estate, Rotherham, S63 9BL  
Tel: 01709 890099  
Fax:

### Classification (state the category of danger)

- **Unstable Explosive**
- **Corrosive**
- **Hazardous to the Aquatic Environment**
- **Flammable**
- **Harmful (Toxic / Irritant)**
- **Acute Toxicity**
- **Oxidising**
- **Gas under pressure**
- **Health Hazard**

### Hazard Type

- Gas
- Vapour
- Mist
- Fume
- Dust
- Liquid
- Solid
- Other *(State)*

### Route of Exposure

- Inhalation  □
- Skin  □
- Eyes  □
- Ingestion  □
- Other *(State)*

### Workplace Exposure Limits (WELs) *please indicate n/a where not applicable*

Long-term exposure level (8hrTWA):  
Short-term exposure level (15 mins):

### State the Risks to Health from Identified Hazards

Irritant on prolonged exposure to the skin.

### Control Measures: *(e.g. ventilation, training, supervision)*

All operatives are to be briefed on this assessment and ensure correct PPE is worn.  
Ensure good hygiene practices are maintained by effective supervision and information and training.
<table>
<thead>
<tr>
<th><strong>Is health surveillance or monitoring required?</strong></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

**Personal Protective Equipment (state type and standard)**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td>No</td>
</tr>
<tr>
<td>Visor</td>
<td>No</td>
</tr>
<tr>
<td>Respirator</td>
<td>No</td>
</tr>
<tr>
<td>Goggles</td>
<td>Yes</td>
</tr>
<tr>
<td>Light eye protection</td>
<td>Yes</td>
</tr>
<tr>
<td>Gloves</td>
<td>Yes</td>
</tr>
<tr>
<td>Overalls</td>
<td>No</td>
</tr>
<tr>
<td>Footwear</td>
<td>No</td>
</tr>
<tr>
<td>Other</td>
<td>No</td>
</tr>
</tbody>
</table>

**First Aid Measures**

- **Eye contact:** Flush eyes with water for 15 minutes and, if irritation occurs, seek medical attention.
- **Ingestion:** Wash mouth out thoroughly with water and give plenty to drink. Keep warm and seek medical attention. Do not induce vomiting.
- **Inhalation:** N/A
- **Skin contact:** Wash skin with plenty of water, remove contaminated clothing.

**Storage**

Store in proper containers

**Transport**

N/A

**Fire fighting**

Use dry powder or Carbon Dioxide extinguishers. Toxic fumes may be given off.

**Spillage:**

N/A

**Disposal of Substances & Contaminated Containers**

Dispose of at licensed tips

<table>
<thead>
<tr>
<th><strong>Is exposure adequately controlled?</strong></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

**Risk Rating Following Control Measures**

- **High** | No |
- **Medium** | No |
- **Low** | Yes |
### Description of product:
Q8 Rembrandt EP 2 Grease

**Description of product:** Q8 Rembrandt EP 2 Grease

**Describe the activity or work process.**
Used by fitters and machine operators for lubricating moving parts

**Identify the persons at risk:**
- Employees (including trainees) ☑
- Contractors ☐
- Public ☐

**Manufacturer name, address and telephone number.**
Name: Kuwait Petroleum International Lubricants (UK) Ltd
Address: Knowsthorpe Gate, Cross Green Ind Est, Leeds, LS9 0NP
Tel: 0113 2350555

**Classification (state the category of danger):**
- Unstable Explosive ☐
- Flammable ☐
- Oxidising ☐
- Corrosive ☐
- Harmful (Toxic / Irritant) ☐
- Health Hazard ☐
- Hazardous to the Aquatic Environment ☐
- Acute Toxicity ☐
- Gas under pressure ☐

**Hazard Type:**
- Gas ☐
- Vapour ☐
- Mist ☐
- Fume ☐
- Dust ☑
- Liquid ☐
- Solid ☐
- Other (State) ☐

**Route of Exposure:**
- Inhalation ☐
- Skin ☑
- Eyes ☐
- Ingestion ☐
- Other (State) ☐

**Workplace Exposure Limits (WELs) please indicate n/a where not applicable:**
- Long-term exposure level (8hrTWA): 5mg/m3
- Short-term exposure level (15 mins): ☐

**State the Risks to Health from Identified Hazards:**
Possible defatting to skin
May cause skin dryness and irritation
Prolonged or repeated contact can defat the skin and can lead to irritation, cracking and/or dermatitis

**Control Measures:** (e.g. ventilation, training, supervision)
Wash hands before and after use
Good ventilation is required

**Is health surveillance or monitoring required?**
- Yes ☑
- No ☐
**Personal Protective Equipment (state type and standard)**

- Dust mask
- Visor
- Respirator
- Goggles (Chemical resistant to EN374)
- Gloves (Chemical resistant to EN374)
- Overalls
- Footwear
- Other

**First Aid Measures**

**Eye contact:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Ingestion:** Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

**Skin contact:** Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Storage**

Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Keep container tightly closed and sealed until ready for use.

**Transport**

n/a

**Fire fighting**

Use dry chemical, CO2, Alcohol-resistant foam or water spray (fog)
Do not use water jet.

**Spillage**

Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container.
Move containers from spill area. Prevent entry into sewers, water courses, basements and confined areas. Contain and collect spillage with non-combustible, absorbent material e.g sand, earth, vermiculite or diatomaceous earth and place in container for disposal.

**Disposal of Substances & Contaminated Containers**

Hazardous waste
<table>
<thead>
<tr>
<th>Risk Rating Following Control Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Is exposure adequately controlled? | Yes ✓ | No  |
Description of product: (Include name)

Q8 T55 75W-80
Lubricating oil for automotive transmissions

Describe the activity or work process. (Include how long, how often this is carried out, the quantity of substance used, where it is to be used, what it is used for and who by)

Identify the persons at risk:
- Employees (including trainees) [✓]
- Contractors [☐]
- Public [☐]

Manufacturer name, address and telephone number. (A copy of a current safety data sheet for this substance should be attached to this assessment)

Name: Kuwait Petroleum International Lubricants (UK) Ltd
Address: Knowsthorpe Gate, Cross Green Ind Est, Leeds, LS9 0NP
Tel: 0113 2350555

Classification (state the category of danger)

- Unstable Explosive [☐]
- Flammable [☐]
- Oxidising [☐]
- Corrosive [✓]
- Harmful (Toxic / Irritant) [✓]
- Health Hazard [☐]
- Hazardous to the Aquatic Environment [✓]
- Acute Toxicity [☐]
- Gas under pressure [☐]

Hazard Type

- Gas [☐]
- Vapour [✓]
- Mist [✓]
- Fume [☐]
- Dust [☐]
- Liquid [✓]
- Solid [☐]
- Other (State) [☐]

Route of Exposure

- Inhalation [✓]
- Skin [✓]
- Eyes [✓]
- Ingestion [☐]
- Other (State) [☐]

Workplace Exposure Limits (WELs) please indicate n/a where not applicable

<table>
<thead>
<tr>
<th>Long-term exposure level (8hrTWA): 5mg/m3</th>
<th>Short-term exposure level (15 mins):</th>
</tr>
</thead>
</table>

State the Risks to Health from Identified Hazards

May cause sensitisation by skin contact.
Avoid contact with skin. May cause skin dryness and irritation.
Defatting to skin
Do not get into eyes, skin or on clothing
Avoid breathing in vapour or mist

Control Measures: (e.g. ventilation, training, supervision)

Wash hands before and after use
Good ventilation is required

Is health surveillance or monitoring required?

Yes [☐] No [✓]
### Personal Protective Equipment (state type and standard)

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Type</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
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<td></td>
</tr>
<tr>
<td>Visor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respirator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goggles</td>
<td></td>
<td>Chemical resistant to EN734</td>
</tr>
<tr>
<td>Gloves</td>
<td></td>
<td>Overalls</td>
</tr>
<tr>
<td>Footwear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### First Aid Measures

**Eye contact:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Ingestion:** Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe.

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe.

**Skin contact:** Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention.

### Storage

Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

### Transport

Hazardous waste

### Fire fighting

Use dry chemical, CO2, Alcohol-resistant foam or water spray (fog).

Do not use water jet.

### Spillage

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container.

Prevent entry into sewers, water courses, basements and confined areas. Contain and collect spillage with non-combustible, absorbent material e.g sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Inform relevant authorities if environmental pollution occurs.

### Disposal of Substances & Contaminated Containers

Hazardous waste
<table>
<thead>
<tr>
<th>Is exposure adequately controlled?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Risk Rating Following Control Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
**Description of product:**

Environ MV 32, 46 Hydraulic Fluid

**Describe the activity or work process.**

Environ MV is designed as heavy duty hydraulic power transmission fluids for use in equipment, which must operate over a wide range of temperatures. Typically Environ MV oils are used in hydraulic systems, machine tools, hydraulic presses, rotary compressors and centrifugal pumps. The ashless or zinc-free additive system used in Environ MV oils makes them especially suitable for the use in environmentally sensitive areas.

**Identify the persons at risk:**

- Employees (including trainees) ☑
- Contractors ☐
- Public ☐

**Manufacturer name, address and telephone number.**

Name: Petro-Canada Lubricants Inc  
Address: 2310 Lakeshore Road West, Mississauga, Ontario Canada, L5J 1K2  
Tel: 01217 817264  Fax: 01217 817401  
Email / Website: EUSDA@suncor.com

**Classification (state the category of danger)**

- Flammable ☑
- Oxidising ☐
- Toxic / Irritant ☑
- Corrosive ☐
- Health Hazard ☐
- Gas under pressure ☐
- Under pressure ☐
- Aquatic Environment ☐
- Explosive ☐
- Unstable ☐
- Oxidising ☐
- Reactive ☐
- Toxic ☐
- Harmful ☐
- Harmful ☐
- Toxic / Irritant ☐
- Aquatic Environment ☐
- Explosive ☐
- Unstable ☐
- Oxidising ☐
- Reactive ☐
- Toxic ☐
- Hazardous ☐

**Hazard Type**

- Gas ☐
- Vapour ☐
- Mist ☐
- Fume ☐
- Dust ☑
- Liquid ☐
- Solid ☐
- Other (State) ☐

**Route of Exposure**

- Inhalation ☐
- Skin ☐
- Eyes ☐
- Ingestion ☐
- Other (State) ☐

**Workplace Exposure Limits (WELs) please indicate n/a where not applicable**

Long-term exposure level (8hrTWA): 5mg/m³  
Short-term exposure level (15 mins): ☐

**State the Risks to Health from Identified Hazards**

Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove  
Potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Control Measures: (e.g. ventilation, training, supervision)**

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits. Wash hands before and after use.

**Is health surveillance or monitoring required?**

- Yes ☐
- No ☑
### Personal Protective Equipment

<table>
<thead>
<tr>
<th>Item</th>
<th>Type and Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td></td>
</tr>
<tr>
<td>Visor</td>
<td></td>
</tr>
<tr>
<td>Respirator</td>
<td>Use a properly fitted air-purifying or air-fed respirator complying with an approved standard</td>
</tr>
<tr>
<td>Goggles</td>
<td>Safety eyewear complying with an approved standard should be worn if the risk assessment indicates this is necessary to avoid exposure to liquid splashes, mist or dust.</td>
</tr>
<tr>
<td>Gloves</td>
<td>Chemical resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products.</td>
</tr>
<tr>
<td>Footwear</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

### First Aid Measures

**Eye contact:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Ingestion:** Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

**Skin contact:** Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

### Storage

Store in original container protected from direct sunlight in a dry, cool well ventilated area, away from incompatible materials and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

### Transport

n/a

### Fire fighting

Use an extinguishing agent suitable for the surrounding fire.

### Spillage:

**Small Spills:** Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water soluble. Alternatively, or if water insoluble absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large Spills:** Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

### Disposal of Substances & Contaminated Containers

Waste packaging should be recycled. Not classified as hazardous.

### Is exposure adequately controlled?

- Yes [✓]
- No [ ]

### Risk Rating Following Control Measures

- High [ ]
- Medium [ ]
- Low [✓]
Description of product: (Include name)

Esso Unleaded Petrol

Describe the activity or work process. (Include how long, how often this is carried out, the quantity of substance used, where it is to be used, what it is used for and who by)

Petrol used to re-fill small generators on site and Stihl cut off saws. Petrol contained in 5 ltr plastic or metal container or 25ltr metal Gerry can. Refuelling normally carried out by operatives and supervisors on site. Refuelling dependant on usage of equipment but likely to be at least on refuel per shift. Fuel tank capacity on Stihl Saw TS410 / 420 is 0.7 litres of fuel.

Identify the persons at risk:

- Employees (including trainees)
- Contractors
- Public

Manufacturer name, address and telephone number.

(A copy of a current safety data sheet for this substance should be attached to this assessment)

Name: Esso Petroleum Company Limited
Address: ExxonMobil House, Ermyn Way, Leatherhead, Surrey, KT22 8UX
Tel: 01372 222000
Email sds-uk@exxonmobil.com
Website: www.exxonmobil.co.uk

Classification (state the category of danger)

- Gas
- Vapour
- Mist
- Fume
- Dust
- Liquid
- Solid
- Other (State)

- Unstable Explosive
- Flammable
- Corrosive
- Harmful (Toxic / Irritant)
- Health Hazard
- Hazardous to the Aquatic Environment
- Acute Toxicity
- Gas under pressure

Hazard Type

- Gas
- Vapour
- Mist
- Fume
- Dust
- Liquid
- Solid
- Other (State)

Route of Exposure

- Inhalation
- Skin
- Eyes
- Ingestion
- Other (State)

Workplace Exposure Limits (WELs) please indicate n/a where not applicable

Long-term exposure level (8hrTWA):
- Benzene = 3.25mg/m3
- Low boiling point naphtha = 300mg/m3
- Toluene = 191mg/m3

Short-term exposure level (15 mins):
- 2.5mg/m3
- 500mg/m3
- 574mg/m3

State the Risks to Health from Identified Hazards

May cause cancer. May cause heritable genetic damage. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed. Irritating to skin. Vapours may cause drowsiness and dizziness. May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression. High-pressure injection under skin may cause serious damage. Prolonged and repeated exposure to benzene may cause serious injury to blood forming organs and is associated with anaemia and to the later development of acute myelogenous leukaemia (AML).

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

Control Measures: (e.g. ventilation, training, supervision)

- Ensure generators are properly earthed on site.
- Ensure small generators and cut off saws etc. have cooled down sufficiently before attempting to refuel. (DO NOT REFUEL HOT) Petroleum can accumulate static charges which may cause an electrical spark (ignition source). DO NOT use mobile phone or any other communication device when refueling DO NOT smoke when refueling

Is health surveillance or monitoring required?

Yes [ ] No [ √ ]
### Personal Protective Equipment (state type and standard)

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Type and Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td></td>
</tr>
<tr>
<td>Visor</td>
<td></td>
</tr>
<tr>
<td>Respirator</td>
<td></td>
</tr>
<tr>
<td>Goggles</td>
<td>EN166 Field of Use 3 Protection against liquids (droplets or splashes) when refuelling.</td>
</tr>
<tr>
<td>Safety glasses</td>
<td>EN166 Field of Use 3 Protection against liquids (droplets or splashes) when refuelling.</td>
</tr>
<tr>
<td>Gloves</td>
<td>EN 374 Nitrile Gloves</td>
</tr>
<tr>
<td>Overalls</td>
<td>If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.</td>
</tr>
<tr>
<td>Footwear</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

### First Aid Measures

**Eye contact:** Flush thoroughly with water. If irritation occurs, get medical assistance.

**Ingestion:** Seek immediate medical attention. Do not induce vomiting.

**Inhalation:** Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

**Skin contact:** Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

### Storage

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be earthed and bonded. Drums must be earthed and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.

### Transport

Hazard class 3

### Fire Fighting

Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water. Unusual Fire Hazards: EXTREMELY FLAMMABLE. Vapour is flammable and heavier than air. Vapour may travel across the ground and reach remote ignition sources, causing a flashback fire danger.

### Spillage

Avoid contact with spilled material. Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Do not confine in area of spill. Allow liquid to evaporate from the surface. Prevent entry into waterways, sewers, basements or confined areas.

### Disposal of Substances & Contaminated Containers

Treat as hazardous waste.

### Is exposure adequately controlled?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

### Risk Rating Following Control Measures

<table>
<thead>
<tr>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
### Disposal of Substances & Contaminated Containers

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

<table>
<thead>
<tr>
<th>Is exposure adequately controlled?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Risk Rating Following Control Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
</tr>
<tr>
<td>[ ]</td>
</tr>
</tbody>
</table>
### Description of product:
Aerosol Solutions Yellow Linemarker 750ml

### Describe the activity or work process.
Marker paint is used to mark pile positions on site prior to carrying out piling operations. It is used by setting out engineers and site foreman in open air environment.

### Identify the persons at risk:
- Employees (including trainees)
- Contractors
- Public

### Manufacturer name, address and telephone number.
Aerosol Solutions Limited
Unit C, Bridgefield Industrial Estate, Draycott Road, Breaston, Derby, DE72 3DS
01332 870030
01332 870033

### Classification (state the category of danger)
- Unstable Explosive
- Flammable
- Oxidising
- Corrosive
- Harmful (Toxic / Irritant)
- Hazardous to the Aquatic Environment
- Acute Toxicity
- Health Hazard
- Gas under pressure

### Hazard Type
- Gas
- Vapour
- Mist
- Fume
- Dust
- Liquid
- Solid
- Other (State)

### Route of Exposure
- Inhalation
- Skin
- Eyes
- Ingestion
- Other (State)

### Workplace Exposure Limits (WELs) please indicate n/a where not applicable

#### Long-term exposure level (8hrTWA):
- METHOXY-2-PROPANOL: 100 ppm(Sk) 375 mg/m3(Sk)
- BUTOXETHANOL: 25 ppm (Sk)
- ACETONE: 500 ppm 1210 mg/m3
- BUTANE/ISOBUTANE: 600 ppm
- SOLVENT NAPHTHA, LIGHT AROMATIC: 25 ppm 50 mg/m3(Sk)

#### Short-term exposure level (15 mins):
- 150 ppm(Sk) 560 mg/m3(Sk)
- 1500 ppm 3620 mg/m3
- 750 ppm

### State the Risks to Health from Identified Hazards
- Irritating to eyes. Spray and vapour in the eyes may cause irritation and smarting. Repeated exposure may cause skin dryness or cracking. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Arrhythmia, (deviation from normal heart beat) Vapours may cause drowsiness and dizziness.

### Control Measures: (e.g. ventilation, training, supervision)
- Read and follow manufacturer's recommendations. Avoid inhalation of vapours and spray mists.
- Keep away from heat, sparks and open flame. Do not spray on a naked flame or any incandescent material.
- When sprayed on a naked flame or any incandescent material the aerosol vapours can be ignited.
- Storage Precautions. Extremely flammable. Store at moderate temperatures in dry well-ventilated area. Keep away from heat, sparks and open flame. Pressurized container; protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. For prolonged or repeated skin contact use suitable protective gloves. Wear approved chemical safety glasses / goggles where eye exposure is reasonably probable.
When using does not eat, drink or smoke. Wash promptly if skin becomes wet or contaminated.

<table>
<thead>
<tr>
<th>Personal Protective Equipment (state type and standard)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask ☐</td>
</tr>
<tr>
<td>☑ Visor</td>
</tr>
<tr>
<td>☑ Respirator</td>
</tr>
<tr>
<td>☑ Goggles</td>
</tr>
<tr>
<td>☑ Gloves</td>
</tr>
<tr>
<td>☐ Overalls</td>
</tr>
<tr>
<td>☐ Footwear</td>
</tr>
<tr>
<td>☐ Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>First Aid Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact: Immediately rinse with water. Continue to rinse for at least 15 minutes. Make sure to remove any contact lenses from the eyes before rinsing. Get medical attention promptly if symptoms occur after washing.</td>
</tr>
<tr>
<td>Ingestion: Immediately rinse mouth and provide fresh air. Do not induce vomiting. Get medical attention if any discomfort continues.</td>
</tr>
<tr>
<td>Inhalation: Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest. Get prompt medical attention.</td>
</tr>
<tr>
<td>Skin contact: Wash skin with soap and water. Get medical attention if any discomfort continues.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read and follow manufacturer's recommendations. Keep away from heat, sparks and open flame. Store at moderate temperatures in dry well-ventilated area. Protect from sunlight and do not expose to temperatures exceeding 50°C.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmentally Hazardous Substance/Marine Pollutant. Proper Shipping Name AEROSOLS ADR/RID/ADN Class 2, 5F</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fire fighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extinguishing Media: Water spray, foam, dry powder or carbon dioxide. Use water spray to reduce vapours. Aerosol cans may explode in a fire. Cool aerosol containers exposed to heat with water spray and remove container, if no risk is involved. Extremely flammable. Forms explosive mixtures with air. May explode in a fire. Vapours are heavier than air and may spread near ground to sources of ignition.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spillage:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Absorb in vermiculite, dry sand or earth and place into containers. Provide ventilation and confine spill. Do not allow runoff to sewer. Avoid discharge into drains. Personal Precautions ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disposal of Substances &amp; Contaminated Containers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make sure containers are empty before discarding (explosion risk). Do not puncture or incinerate even when empty. Dispose of waste and residues in accordance with local authority requirements.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is exposure adequately controlled?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☑</td>
</tr>
<tr>
<td>No ☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk Rating Following Control Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>High ☐</td>
</tr>
<tr>
<td>☑ Medium</td>
</tr>
<tr>
<td>Low ☑</td>
</tr>
<tr>
<td>Document Type</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>Assessment</td>
</tr>
</tbody>
</table>
**Title**: Hazardous Substance (COSHH) Assessment

**Description of product:**
Adblue aqueous urea (32.5%) solution
Diesel fuel additive

**Describe the activity or work process.**
To be decanted into Adblue tank on the side of various machines
Top up Adblue tank when refuelling main diesel tank
To be used by driver

**Identify the persons at risk:**
- Employees (including trainees)
- Contractors
- Public

**Manufacturer name, address and telephone number.**
Name: GreenChem Solutions Ltd
Address: Midshires House Aylesbury HP19 8HL
Tel: 0129-678548
Email/Website:

**Classification (state the category of danger):**

- Unstable Explosive
- Flammable
- Oxidising
- Corrosive
- Harmful (Toxic/Irritant)
- Health Hazard
- Gas under pressure
- Hazardous to the Aquatic Environment
- Acute Toxicity
- Gas under pressure
- Corrosive
- Health Hazard

**Hazard Type:**
- Gas
- Vapour
- Mist
- Fume
- Dust
- Liquid
- Solid
- Other (State)

**Route of Exposure:**
- Inhalation
- Skin
- Eyes
- Ingestion
- Other (State)

**Workplace Exposure Limits (WELs) please indicate n/a where not applicable:**

| Long-term exposure level (8hrTWA): | N/A |
| Short-term exposure level (15 mins): | N/A |

**State the Risks to Health from Identified Hazards:**
Minor irritate

**Control Measures: (e.g. ventilation, training, supervision):**
Ensure funnels are used when dispensing into recepticle tank to minimise risk of spillage and splashes
Ensure containers come in suitable sizes maxium size 20lt with regards to manual handling and ease of pouring into receptacles etc

**Is health surveillance or monitoring required?**
- [ ] No
- [x] Yes
### Personal Protective Equipment *(state type and standard)*

<table>
<thead>
<tr>
<th>Equipment</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust mask</td>
<td></td>
</tr>
<tr>
<td>Visor</td>
<td></td>
</tr>
<tr>
<td>Respirator</td>
<td></td>
</tr>
<tr>
<td>Goggles</td>
<td>✓</td>
</tr>
<tr>
<td>PVC/Rubber</td>
<td>✓</td>
</tr>
<tr>
<td>Gloves</td>
<td></td>
</tr>
<tr>
<td>Overalls</td>
<td></td>
</tr>
<tr>
<td>Footwear</td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

### First Aid Measures

**Eye contact:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Ingestion:** If person is conscious Wash out mouth with water. Drink lukewarm water, do not induce vomiting. Seek medical care if symptoms occur.

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Obtain medical care if symptoms occur. In case inhalation of decomposition products in a fire the exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact:** Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

### Storage

Store in original container. Store in a well-ventilated area, away from incompatible materials, and food and drink. Keep container tightly closed and sealed until ready for use. Keep opened containers upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

### Transport

The product is not covered by the international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

### Fire fighting

Urea is non flammable. Use fire extinguisher method that is suitable for the fire.

### Spillage

Stop leak if without risk. Move containers from spill area. If water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Always approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas.

### Disposal of Substances & Contaminated Containers

The drums when empty must be rinsed out and disposed of in the designated bins.

### Is exposure adequately controlled?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✓</td>
<td></td>
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</tbody>
</table>

### Risk Rating Following Control Measures

<table>
<thead>
<tr>
<th>Rating</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>Low</td>
</tr>
</tbody>
</table>
4. KELLER HSEQ POLICY
Health, Safety, Environment and Quality Policy
CONTENTS

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1. Introduction

This policy covers all the work carried out by the operating divisions and group functions of the Keller business unit for North West Europe.

Keller is a specialist contractor providing geotechnical, monitoring and earth retaining structural services to the building and civil engineering industries and the design and manufacture of mixing and pumping equipment for supply worldwide.


The system is detailed in an Integrated Management System (IMS). The Keller IMS (KIMS) is available on the company intranet which acts as the controlling version. KIMS contains procedures and instructions and each detail the responsibilities for ensuring compliance with the System. Regular audits of the instructions and procedures are carried out.

This policy is communicated to all employees and to other persons working for the company and is made available to other external interested parties and is posted on appropriate Keller websites.

2. Policy Statement

Keller aims not only to satisfy, but to also exceed its customers’ expectations by providing them with a quality service.

Keller shall:

➢ Develop and maintain an Integrated Management System that will comply with requirements and lead to continual improvement in all areas of our operations by clearly defining aims and objectives to:

 o Train and develop the competency of our people to the standard required for delivery of a first class, quality service to customers while demonstrating our commitment to health, safety and the environment.

 o Ensure confidentiality of information, including that provided by customers.

 o Identify and comply with all relevant legislation and other requirements to which we subscribe.

 o Assess the environmental impact of our key processes, products or services.

 o Ensure careful selection of suppliers, careful use of materials and resources, seek to eliminate or reduce waste and to prevent pollution.

 o Comply fully with Keller Group Plc. “Think Safe” minimum standards by providing a safe, healthy and sustainable working environment for all our people with a commitment to providing a workplace that is free of injury and ill health.

 o Develop a health and safety awareness culture throughout the organisation by encouraging good leadership.
- Ensure the health and safety of sub-contractors and other persons who may be affected by our activities.
- Conduct our activities responsibly and in a manner that will protect our staff, the public and the environment.
- Ensure that all employees are aware of their statutory duties and take reasonable care of themselves, others and the environment.

Keller will achieve these aims, and meet its business objectives, through the development of an Integrated Management System, internal communication, supervision, and the on-going training and development of all our personnel.

The management team is committed to ensuring that employees co-operate to ensure all workplaces are safe for those that work there, or could be affected by our activities and do not compromise the operational safety of our customer sites, the workforce and general public.

Clear objectives, relating to performance, shall be set, as part of the Business Plan, to implement this policy and demonstrate our commitment to continual improvement.

This policy and associated procedures shall be formally reviewed annually or as a result of changes in legislation, scope or performance.

Signed

J De Waele

Managing Director Keller Europe

07th October 2015
3. Organisation Keller North West Europe

4. Responsibility for Health, Safety, Environment and Quality

4.1 Managing Director Europe

The Managing Director Europe is ultimately responsible for Health, Safety, Environment and Quality throughout Keller NWE and has in turn formerly appointed each of the Divisional Managing Directors and Executive Directors to be the Directors responsible for Health, Safety, Environment and Quality within their area of control. In order to ensure that the Managing Directors and Executive Directors are fully conversant with their responsibilities, the Business Unit Manager NWE has outlined their responsibilities as an integral part of this policy document:

4.2 Divisional Managing Directors, Executives and Functional Leads

As the manager responsible for Health, Safety, Environment and Quality, each Managing Director, Executive and Functional Lead is responsible for ensuring that the Keller Integrated Management Systems and associated control measures are effectively implemented throughout their area of control. As an integral part of their overall responsibilities, the Managing Directors, Executives and Functional Leads are responsible for:

- Ownership of their Health, Safety, Environment and Quality Objectives;
- Leading and maintaining the divisional and functional management structures in order to manage business risk;
- Ensuring that Keller standards are maintained;
Ensuring the identification of all hazards and risks associated with their operations and for ensuring that suitable risk assessments are developed and implemented to effectively manage and mitigate the risks;

Ensuring that their operations are conducted in accordance with current legislative requirements;

Ensuring that their staff, operatives and contractors are suitably qualified and that suitable training and competency records are maintained;

Ensuring adequate resources are available to meet risk control obligations;

Ensuring that roles and responsibly are communicated to their managers, staff and contractors.

4.3 Health, Safety, Environment and Quality Manager – (Appointed Competent Person)

The Executive Committee has appointed the Health, Safety, Environmental and Quality (HSEQ) Manager to be responsible for:

The development, implementation, monitoring and control of all Health, Safety, Environment and Quality Policies and procedures used throughout the Company including:

- The development and implementation of the Health, Safety, Environment and Quality Objectives;
- The provision of guidance and assistance in relation to the development of their own operational procedures to ensure that they have developed and implemented effective management systems;
- Implementation of audit and review of compliance with corporate and business unit policies and procedures;
- Providing reports to the Executive Committee in relation to areas of underperformance and good practice and to highlight areas of risk to ensure that senior management are provided with a true picture of how well Health, Safety, Environment and Quality is being managed throughout the business.

The Health, Safety, Environment and Quality Manager reports directly to the Managing Director Europe and operates independently of the operational management teams. Thus effectively enabling the position to:

- Present advice independently and effectively to the business;
- Present an unbiased, assured view of each division and functional Health, Safety, Environment and Quality compliance;

The Health Safety Environment and Quality manager is in turn assisted in the execution of his role by the employment of Competent Health, Safety, Environment and Quality Personnel these include:

- HSEQ Advisers
- HSEQ Coordinators

Divisional Safety Representatives are appointed to assist in the delivery and promotion of Safe behaviours.
4.4 HSEQ Advisers

HSEQ Advisers are responsible for:

- Championing KIMS and Rolling out Keller HSEQ policies and procedures;
- Facilitating the development of operational procedures and risk control measures to implement compliance with Keller and legislative requirements;
- Actively promoting and coaching Health, Safety, Environment and Quality;
- Communication and coordination with the Divisional Safety Representatives;
- Assisting each division and function to develop, implement and communicate the local Health, Safety, Environment and Quality systems;
- The day to day monitoring of compliance with Health, Safety, Environment and Quality requirements, and for providing feedback and recommendations to managers in relation to their Health, Safety, Environment and Quality performance;
- Incident and non-conformance investigation and reporting;
- The provision of guidance and advice on all HSEQ matters;
- Liaison with the enforcing authorities, customers HSEQ personnel, occupational health providers, fire service, police and insurance companies as the need arises.

4.5 Employees / Contractors Employees

As a minimum, all employees and contractors are responsible for ensuring that Health, Safety, Environment and Quality systems are followed and applied and that the Health and Safety of others and the protection of the environment are made is their number one priority.

All employees and contractors’ employees shall take suitable and effective action to avoid acts and conditions that ultimately give rise to accidents, incidents and poor quality.

Every employee has the responsibility to stop any element of work or operation, if they feel unsafe or consider that others might be at risk.

5. Change Record

<table>
<thead>
<tr>
<th>Revision</th>
<th>Changes</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>/2012-11-01</td>
<td>Initial issue</td>
<td>P Shields</td>
</tr>
<tr>
<td>A/2012-12-13</td>
<td>Updated Organisation Chart</td>
<td>P Shields</td>
</tr>
<tr>
<td>C/2014-06-01</td>
<td>Updated NWE Organisation Chart &amp; minor responsibility updates</td>
<td>P Shields</td>
</tr>
<tr>
<td>D/2015-03-02</td>
<td>Updated Organisation Chart and minor amendments to responsibilities</td>
<td>P Shields</td>
</tr>
<tr>
<td>E/2015-10-07</td>
<td>Updated Organisation Chart</td>
<td>S Sedgley</td>
</tr>
</tbody>
</table>

-End of Document-