Description
Aquacharge™ Clear is a member of Orica’s family of explosive products formulated for use where the generation of post blast fume could be experienced. It is specifically designed for use in dewatered blastholes.

Application
There are numerous causes of post-blast fumes, including ground conditions, geology, blast design, initiation sequence, explosive loading technique and explosive selection. Aquacharge™ Clear is recommended for use with Orica’s Fume Risk Reduction(1) process in environmentally sensitive areas. An assessment of current blasting practices and fume quantification are the first steps in fume management.

It is not suitable for ground containing reactive sulphides. Incorrect application of this product may result in elevated levels of post blast fume.

Key Benefits
- Aquacharge™ Clear Reduces fume from blasting operations when used in conjunction with good loading practices.
- Aquacharge™ Clear is designed to give superior reliability in dewatered blastholes.
- The integrated product and delivery systems of the Aquacharge™ Clear System ensures accuracy, productivity and dependability of supply.
- Aquacharge™ Clear can be loaded at varying energies and densities.
- Manufacturing rates of Aquacharge™ Clear up to 500kg/min delivers high on-bench productivity.

Recommendations for Use
Blasthole Charge Length
Aquacharge™ Clear is suitable for charge lengths of up to 45 metres, depending on blasthole diameter, product density and presence of water. Please contact an Orica Technical Representative for further information.

Technical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Aquacharge™ Clear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density (g/cm³)(2)</td>
<td>1.20</td>
</tr>
<tr>
<td>Minimum Diameter (mm)</td>
<td>120</td>
</tr>
<tr>
<td>Maximum Blastinghole Depth (m)(3)</td>
<td>80</td>
</tr>
<tr>
<td>Maximum Charge Length (m)</td>
<td>45</td>
</tr>
<tr>
<td>Hole type</td>
<td>Dry, Dewatered</td>
</tr>
<tr>
<td>Delivery System</td>
<td>Augured</td>
</tr>
<tr>
<td>Recommended Pentex™ Booster</td>
<td>G L</td>
</tr>
<tr>
<td>Typical VOD (km/s)(4)</td>
<td>4.00 – 6.4</td>
</tr>
<tr>
<td>Relative Effective Energy (REE)(5)</td>
<td></td>
</tr>
<tr>
<td>Relative Weight Strength</td>
<td>113</td>
</tr>
<tr>
<td>Relative Bulk Strength</td>
<td>169</td>
</tr>
<tr>
<td>Sleep Time</td>
<td>21 Days</td>
</tr>
</tbody>
</table>

Priming and Initiation
The minimum primer for Aquacharge™ Clear is a Pentex™ G L booster. The booster should be used in conjunction with an Exel™, uni tronic™ or i-kon™ detonator. Use of detonating cord with Aquacharge™ Clear is not recommended.

Charging
The Aquacharge™ Clear System is delivered by Orica’s Mobile Manufacturing Units (MMU™) ensuring the reliability and productivity of your blasting operations. Aquacharge™ Clear is manufactured on the MMU™ and loaded into blastholes on demand.

Care should be taken to ensure the blasthole has been successfully dewatered before loading Aquacharge™ Clear. The water recharge rate should be less than 1 m in 4 hours.

Sleep-Time Within Blastholes
The maximum sleep time is 21 days. However, sleep time is dependent on factors such as blasthole diameter, density, ground water conditions and initiation system. An Orica
Technical Representative should be consulted if special conditions exist.

**Reactive Ground and Ground Temperature**
Reactive Ground® - Aquacharge™ Clear is not suitable for use in reactive ground.

Elevated Temperature® - Aquacharge™ Clear is suitable for use in ground temperatures of 0º up to 55ºC.

If your application requires you to operate outside this temperature range please contact an Orica Technical Representative for further information.

**Gassing Time**
Allow at least 30 minutes between loading and stemming blastholes.

**Product Quality**
Orica's bulk emulsion explosives are manufactured and loaded using an ISO9001 accredited quality process. The Aquacharge™ Clear System of bulk explosives has been developed by Orica Australia specifically for the mining industry using ISO9001 accredited research and engineering processes.

**Storage and Handling**
**Product Classification**
Authorised Name: Aquacharge™ Clear
Correct Shipping Name: Explosive, Blasting, Type E
UN No: 0241
Classification: 1.1D

All regulations pertaining to the handling and use of such explosives apply.

**Disposal**
Disposal of explosive materials can be hazardous. Methods of safe disposal of explosives may vary depending on the user’s situation. Please contact a local Orica representative for information on safe practices.

**Safety**
Aquacharge™ Clear is relatively insensitive to accidental initiation by shock, friction or mechanical impact under normal conditions of use. Detonation may occur from heavy impact or excessive heating particularly under conditions of confinement.

Explosives such as Aquacharge™ Clear based on Ammonium Nitrate may react with sulphides in the ground and create potentially hazardous situations. Orica accepts no responsibility for any loss or liability arising from use of the product in ground containing sulphides or other reactive material.

More detailed information can be found in the product Material Safety Data Sheet.

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**Emergency Telephone Numbers**
Within (country): 1800 033 111
Outside (country): 61 3 9663 2130
Notes:

(1.) Please contact your Orica Mining Services representative for information on our detailed Fume Risk Reduction process.

(2.) Nominal density only.

(3.) Only self-supporting product should be loaded above 45m columns of Aquacharge™ Clear in holes up to 80 m in depth. Please consult an Orica Technical Representative for correct product selection.

(4.) The actual VOD depends on the conditions of use including the diameter of the hole and the degree of confinement. The range quoted refers to unconfined minimum diameter up to calculated ideal VOD.

(5.) REE is the Effective Energy relative to ANFO at a density of 0.8 g/cm^3. ANFO has an effective energy of 2.30 MJ/kg. Energies quoted are based on ideal detonation calculations with a 100MPa cut off pressure.

(6.) Reactive ground and elevated temperature as defined in the Australian Explosives Industry Safety Group (AEISG) Code of Practice for Elevated Temperature and Reactive Ground.