Description
Aquacharge™ Advantage is a member of Orica’s family of bulk explosive products specifically designed for use in dewatered blastholes. It has been specifically tailored for use in open cut hard rock mining.

Application
Aquacharge™ Advantage offers enhanced water resistance compared to heavy ANFO type products. The ability to select density to match particular application needs means that Aquacharge™ Advantage presents a cost effective explosive system for dewatered blastholes.

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™ Advantage is designed to give superior reliability in dewatered blastholes.
• The integrated product and delivery systems of the Aquacharge™ Advantage System ensures accuracy, productivity and dependability of supply.
• Aquacharge™ Advantage can be loaded at varying energies and densities.
• Lower density improves cost effectiveness against traditional Fortan™ Advantage
• Manufacturing rates of Aquacharge™ Advantage up to 500kg/min delivers high on-bench productivity.

Recommendations for Use
Blasthole Charge Length
Aquacharge™ Advantage is suitable for charge lengths of up to 25m, depending on blasthole diameter, product density and presence of water. Please contact an Orica Technical Representative for further information.

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

Technical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Aquacharge™ Advantage</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 Blasthole Depth (m)</td>
<td>30</td>
</tr>
<tr>
<td>Maximum Charge Length (m)</td>
<td>25</td>
</tr>
<tr>
<td>Hole type</td>
<td>Dry or Dewatered</td>
</tr>
<tr>
<td>Delivery System</td>
<td>Augured</td>
</tr>
<tr>
<td>Recommended Pentex™ Booster for minimum hole diameter</td>
<td>G L</td>
</tr>
<tr>
<td>Typical VOD (km/s)(3)</td>
<td>4.00 – 6.20</td>
</tr>
<tr>
<td>Relative Effective Energy (REE)(4)</td>
<td>108-113</td>
</tr>
<tr>
<td>Relative Weight Strength</td>
<td>162 -169</td>
</tr>
<tr>
<td>Relative Bulk Strength</td>
<td>169-176</td>
</tr>
<tr>
<td>Sleep Time</td>
<td>21 Days</td>
</tr>
</tbody>
</table>

Charging
The Aquacharge™ Advantage System is delivered by Orica’s Mobile Manufacturing Units (MMU™) ensuring the reliability and productivity of your blasting operations. Aquacharge™ Advantage 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™ Advantage. 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(1) - Aquacharge™ Advantage is not suitable for use in reactive ground.
Elevated Temperature(1) - Aquacharge™ Advantage 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™ Advantage 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™ Advantage
Proper 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 an Orica Technical Representative for information on safe practices.

Safety
Aquacharge™ Advantage 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™ Advantage 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.) Reactive ground and elevated temperature as defined in the Australian Explosives Industry Safety Group (AEISG) Code of Practice for Elevated Temperature and Reactive Ground.
(2.) Nominal density only.
(3.) 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.
(4.) REE is the Effective Energy relative to ANFO at a density of 0.8 g/cm3. ANFO has an effective energy of 2.30 MJ/kg. Energies quoted are based on ideal detonation calculations with a 100MPa cut off pressure.