



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **RIIBLA203A Conduct mobile mixing of explosives**

**Release: 1**

## RIIBLA203A Conduct mobile mixing of explosives

### Modification History

Not applicable.

### Unit Descriptor

This unit covers conducting mobile mixing of explosives in resources and infrastructure industries. It includes: preparing for operations; loading and mixing explosives materials; transporting explosives to delivery point; and delivering explosives into blast hole.

### Application of the Unit

This unit is appropriate for those working in operational roles, within:

- Civil construction
- Coal mining
- Extractive industries
- Metalliferous mining

### Licensing/Regulatory Information

Refer to Unit Descriptor.

### Pre-Requisites

Not applicable.

### Employability Skills Information

This unit contains employability skills.

### Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for operations	<ul style="list-style-type: none"> <li>1.1. Access, interpret and apply <i>compliance documentation</i> relevant to mix <i>explosives</i> using <i>mobile processing units</i></li> <li>1.2. Select <i>personal protective equipment</i> appropriate for work activities</li> <li>1.3. Inspect work area and establish, barricade and signpost loading area</li> <li>1.4. Identify, address and report potential hazards and risks</li> <li>1.5. Segregate <i>incompatible goods</i> prior to loading the mobile processing unit according to legislation and code of practice</li> <li>1.6. Inspect mobile processing unit for safe loading of explosives materials</li> <li>1.7. Ensure <i>attachments</i> comply with standards and licensing requirements</li> <li>1.8. Placard mobile processing unit and attachments to show the goods carried, Hazchem identity and emergency information</li> <li>1.9. Check that <i>safety equipment</i> is fitted and ready for use</li> </ul>
2. Load and mix explosives materials	<ul style="list-style-type: none"> <li>2.1. Calculate batch quantities for ingredients to manufacture explosive to specification, and check availability of ingredients</li> <li>2.2. Wear required personal protective equipment</li> <li>2.3. Ensure truck is empty of product and any identified water in storage bin removed</li> <li>2.4. Apply parking brake throughout materials loading operation</li> <li>2.5. Position truck and <i>operate controls</i> to load specified amounts of materials according to required procedures</li> <li>2.6. Set timer and operate controls to mix explosive for specified time according to procedures</li> <li>2.7. Load materials in a safe manner to prevent spillage or injury to personnel and observe <i>emergency procedures</i></li> </ul>

	2.8. Record the details of all materials loaded according to procedures and requirements
3. Transport explosives to delivery point	<p>3.1. Carry out vehicle <i>pre-start checks</i></p> <p>3.2. Confirm and adhere to pre-planned route</p> <p>3.3. Operate vehicle according to <i>road conditions</i> and in compliance with established mine traffic rules</p> <p>3.4. Follow emergency procedures for accidents that result in a dangerous situation</p>
4. Deliver explosives in blast hole	<p>4.1. Select most appropriate hole discharge point and locate delivery chute over blast hole</p> <p>4.2. Confirm the identity of blast hole and explosive loading requirements with <i>relevant personnel</i></p> <p>4.3. Regulate the discharge of explosive to the blast hole to achieve specified weight or stemming height</p> <p>4.4. Complete loading hole and prepare vehicle for next blast hole</p> <p>4.5. Complete records as required</p> <p>4.6. Ensure area is clear and safe to move vehicle</p>

## Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

### Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to conduct mobile mixing of explosives:

- apply legislative, organisation and site requirements and procedures
- apply driving techniques in adverse conditions
- apply route planning processes
- apply hazard identification procedures
- apply hazardous goods handling procedures
- apply towing techniques
- apply vehicle refuelling procedures
- apply emergency procedures

### Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to conduct mobile mixing of explosives:

- authorities to operate an MPU
- types and properties of explosives materials
- MPU explosive materials capacity
- mixing parameters and ratios
- incompatible materials and methods of segregation
- safety and emergency procedures and equipment associated with the loading and operation of an MPU
- MPU operation
- configuration, accessories and working parts of MPUs
- MPU loading equipment and methods
- recording and reporting requirements
- transport emergency procedures
- explosives discharge methods and requirements
- placarding and signage requirements

## Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p><b>Overview of assessment</b></p>	
<p><b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b></p>	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> <li>• knowledge of the requirements, procedures and instructions for mobile mixing of explosives</li> <li>• implementation of requirements, procedures and techniques for the safe, effective and efficient completion of mobile mixing of explosives</li> <li>• working with others to undertake and complete the mobile mixing of explosives that meets all of the required outcomes</li> <li>• consistent timely completion of the mobile mixing of explosives that safely, effectively and efficiently meets the required outcomes</li> </ul>
<p><b>Context of and specific resources for assessment</b></p>	<ul style="list-style-type: none"> <li>• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.</li> <li>• The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job.</li> <li>• Customisation of assessment and delivery environment to sensitively accommodate cultural diversity.</li> <li>• Aboriginal people and other people from a non English speaking background may have second</li> </ul>

	<p>language issues.</p> <ul style="list-style-type: none"> <li>• Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances.</li> <li>• Where applicable, physical resources should include equipment modified for people with disabilities.</li> <li>• Access must be provided to appropriate learning and/or assessment support when required.</li> </ul>
<p><b>Method of assessment</b></p>	<p>This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:</p> <ul style="list-style-type: none"> <li>• written and/or oral assessment of the candidate's required knowledge</li> <li>• observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> <li>• implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes</li> <li>• consistently achieving the required outcomes</li> </ul> </li> <li>• first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> <li>• working with others to undertake and complete the mobile mixing of explosives</li> </ul> </li> </ul>
<p><b>Guidance information for assessment</b></p>	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

## Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><b>Relevant compliance documentation</b> may include:</p>	<ul style="list-style-type: none"> <li>• legislative, organisation and site requirements and procedures</li> <li>• manufacturer's guidelines and specifications</li> <li>• Australian standards</li> <li>• code of practice</li> <li>• Employment and workplace relations legislation</li> <li>• Equal Employment Opportunity and Disability Discrimination legislation</li> </ul>
<p><b>Explosives</b> is defined as:</p>	<ul style="list-style-type: none"> <li>• 'any material or mixture which, when initiated, undergoes a rapid chemical change with the development of heat and high pressure to produce an aural, visual or practical effect'</li> </ul>
<p><b>Explosives materials</b> may include:</p>	<ul style="list-style-type: none"> <li>• ANFO</li> <li>• heavy ANFO</li> <li>• SOFTLOAD</li> </ul>
<p><b>Mobile Processing Unit (MPU)</b> may be defined as:</p>	<ul style="list-style-type: none"> <li>• 'A vehicle mounted plant which carries its own ingredients, can manufacture or blend a Class 1 explosive and which contains its own delivery system for the explosive; or a vehicle mounted bulk explosives container which contains its own delivery system for the explosive'</li> </ul>
<p><b>Mobile Processing Units</b> may include:</p>	<ul style="list-style-type: none"> <li>• ANFO units</li> <li>• emulsion units</li> <li>• slurry trucks</li> <li>• bulk emulsion explosive delivery vehicles</li> <li>• re-pump vehicles</li> <li>• pre-blended ANFO trucks</li> </ul>
<p><b>Personal protective equipment</b> may include:</p>	<ul style="list-style-type: none"> <li>• safety helmet</li> <li>• safety glasses</li> <li>• steel toe capped boots</li> <li>• ear plugs/muffs</li> <li>• appropriately fitting protective clothing</li> </ul>
<p><b>Incompatible goods</b> may include:</p>	<ul style="list-style-type: none"> <li>• combustible liquids</li> <li>• ammonium nitrate:</li> </ul>



	<ul style="list-style-type: none"> <li>• solutions of ammonium nitrate</li> <li>• solutions of ammonium nitrate and other inorganic nitrates</li> <li>• ammonium nitrate emulsions conforming to UN 3375</li> <li>• urea/ammonium nitrate eutectics</li> <li>• ammonium nitrate emulsions and water gels which meet the requirements of a class 1.5 explosive</li> <li>• ANFO mixture: <ul style="list-style-type: none"> <li>• mixtures of ammonium nitrate and fuel oils</li> </ul> </li> <li>• solid fuels including: <ul style="list-style-type: none"> <li>• aluminium powder</li> <li>• polystyrene beads</li> <li>• pulverised rubber</li> <li>• 'premix' - solid fuels for water gels</li> <li>• other solid fuels included in authorised explosive compositions</li> </ul> </li> <li>• 'effect' chemicals</li> <li>• detonators and other Class 1 explosives</li> <li>• water (except where carried for cleaning and/or processing purposes)</li> </ul>
<b>Attachments</b> may include:	<ul style="list-style-type: none"> <li>• elevated work platform</li> <li>• trailer</li> <li>• pumps</li> <li>• auger</li> <li>• emulsion unit</li> </ul>
<b>Safety equipment</b> on the MPU may include:	<ul style="list-style-type: none"> <li>• emergency kit</li> <li>• emergency stops</li> <li>• rotating beacon</li> <li>• fire extinguishers</li> <li>• handrail and walkway</li> <li>• signage and placarding</li> <li>• battery isolator</li> <li>• fuel isolator</li> </ul>
<b>Operating controls</b> may include:	<ul style="list-style-type: none"> <li>• operating bin loading hatch</li> <li>• auger raising, lowering and slewing</li> <li>• discharge chutes</li> <li>• operating scales/operating timers</li> </ul>
<b>Emergency procedures</b> may include:	<ul style="list-style-type: none"> <li>• emergency stops</li> <li>• battery isolation</li> </ul>

	<ul style="list-style-type: none"> <li>• fire control procedures</li> <li>• reporting defects and faults</li> </ul>
<b>Pre-start checks</b> may include:	<ul style="list-style-type: none"> <li>• fluid levels</li> <li>• auger/tumbler seal inspection</li> <li>• fire extinguishers</li> <li>• loading lights</li> <li>• signs/placards</li> <li>• flashing beacon</li> </ul>
<b>Road conditions</b> may include:	<ul style="list-style-type: none"> <li>• dust</li> <li>• fog</li> <li>• rough surface/corrugated surface</li> <li>• wet/slippery/boggy roads</li> </ul>
<b>Emergency procedures for accidents</b> that result in a dangerous situation may include:	<ul style="list-style-type: none"> <li>• notifying the emergency services of the incident as soon as possible</li> <li>• notifying the owner the owner or prime contractor</li> <li>• providing reasonable assistance to the emergency services</li> <li>• carrying out emergency procedures recommended in emergency information provided, including EPGs</li> <li>• carrying out the local emergency plan</li> <li>• preventing any other vehicles, dangerous goods or explosives from coming within a safe distance specified in the emergency information carried in the vehicle</li> <li>• warning any person in the vicinity who may be at risk</li> <li>• preventing or minimising the escape of any transported material and its entry into the surrounding environment</li> </ul>
<b>Relevant personnel</b> may include:	<ul style="list-style-type: none"> <li>• shotfirers</li> <li>• blast crews</li> <li>• contractors</li> </ul>

## Unit Sector(s)

Blasting

## **Competency field**

Refer to Unit Sector(s).

## **Co-requisite units**

Not applicable.