

<b>Title</b>	<b>Characterise the composition of acid and base solutions</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>4</b>

<b>Purpose</b>	People credited with this unit standard are able to determine the chemical species present in acid and base solutions, and characterise acid-base titration curves.
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<b>Classification</b>	Science > Chemistry
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<b>Available grade</b>	Achieved
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### Guidance Information

Examples are restricted to monoprotic acids and their salts.

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### Outcomes and performance criteria

#### Outcome 1

Determine the chemical species present in acid and base solutions.

#### Performance criteria

- 1.1 Experimental evidence is used to qualitatively determine the relative concentration of species present in aqueous solutions of acids, alkalis, and salts.
- Range experimental evidence includes - conductivity, pH, solubility.
- 1.2  $K_a$  or  $pK_a$  values are used to calculate the pH of weak acid and weak alkaline solutions.
- 1.3 The pH of weak acid and weak alkaline solutions are used to calculate the  $K_a$  or  $pK_a$  values.

#### Outcome 2

Characterise acid-base titration curves.

Range weak acid /strong base, strong acid /weak base, strong acid/strong base; evidence of one is required.

**Performance criteria**

2.1 The pH of key points of acid-base titration curves is predicted.

Range any two of - initial pH, equivalence point, buffer region.

2.2 Indicators which will change colour at the equivalence point are selected for an acid-base titration.

<b>Replacement information</b>	This unit standard and unit standard 8950 replaced unit standard 6346.
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**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	1 November 1996	31 December 2013
Revision	2	7 July 1999	31 December 2013
Revision	3	12 February 2003	31 December 2013
Review	4	20 September 2012	31 December 2022
Rollover and Revision	5	15 June 2017	31 December 2022
Review	6	22 October 2020	31 December 2022

<b>Consent and Moderation Requirements (CMR) reference</b>	0226
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.