

90932M



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NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

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Te Mātauranga Matū, Kaupae 1, 2018

90932M Te whakaatu māramatanga ki ētahi āhuatanga o te matū ā-warō

2.00 i te ahiahi Rāpare 15 Whiringa-ā-rangi 2018
Whiwhinga: Whā

Paetae	Kaiaka	Kairangi
Te whakaatu māramatanga ki ētahi āhuatanga o te matū ā-warō.	Te whakaatu māramatanga hōhonu ki ētahi āhuatanga o te matū ā-warō.	Te whakaatu māramatanga matawhānui ki ētahi āhuatanga o te matū ā-warō.

Tirohia mēnā e rite ana te Tau Ākonga ā-Motu (NSN) kei runga i tō puka whakauru ki te tau kei runga i tēnei whārangi.

Me whakamātau koe i ngā tūmahi KATOĀ kei roto i tēnei pukapuka.

He taka pūmotu me ētahi atu rauemi tautoko kei te Pukapuka Rauemi L1–CHEMMR.

Mēnā ka hiahia whārangi atu anō koe mō ō tuinga, whakamahia ngā whārangi wātea kei muri o tēnei pukapuka, ka āta tohu ai i te tau tūmahi.

Tirohia mēnā e tika ana te raupapatanga o ngā whārangi 2–19 kei roto i tēnei pukapuka, ka mutu, kāore tētahi o aua whārangi i te takoto kau.

ME HOATU RAWA KOE I TĒNEI PUKAPUKA KI TE KAIWHAKAHAERE Ā TE MUTUNGA O TE WHAKAMĀTAUTAU.

TAPEKE

MĀ TE KAIMĀKA ANAKE

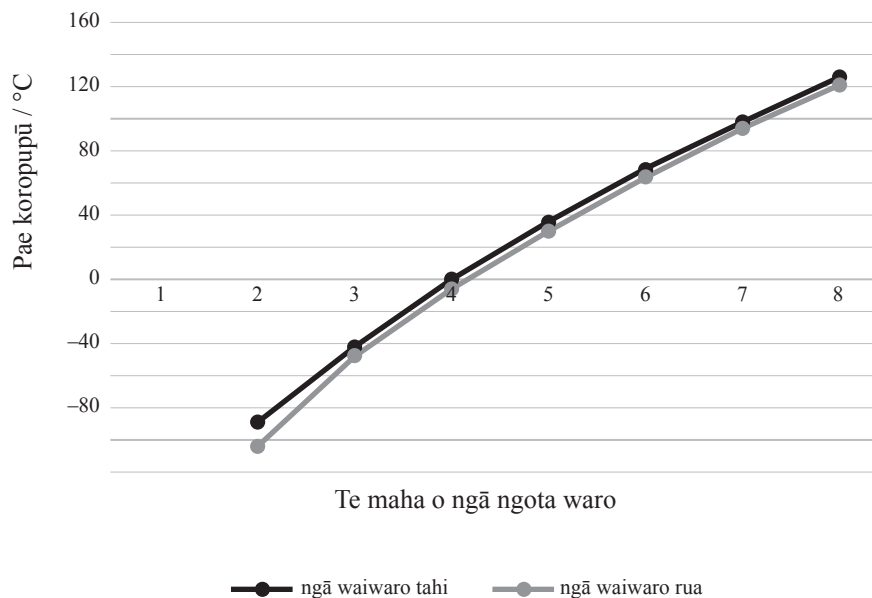
TŪMAHI TUATAHI

(a) Kua whakarōpūhia te ewaro me te waiwaro rua ewaro hei waiwaro.

- (i) Tātuhia ngā tātai hanganga o te ewaro me te waiwaro rua ewaro ki ngā tapawhā i raro nei:

Ewaro	Waiwaro rua ewaro

**Ngā pae koropupū o ngā waiwaro tahi
me ngā waiwaro rua mekameka tōtika**



- (ii) Whakatauritea ngā waiwaro tahi me ngā waiwaro rua e pā ana ki:

- te hanganga me te honohono o ngā waiwaro tahi me ngā waiwaro rua
- ngā ia i ngā pae koropupū.

I tō tuhinga, me kōrero koe mō te kauwhata i runga, me tō mōhio mō te hanganga o ngā waiwaro tahi me ngā waiwaro rua.

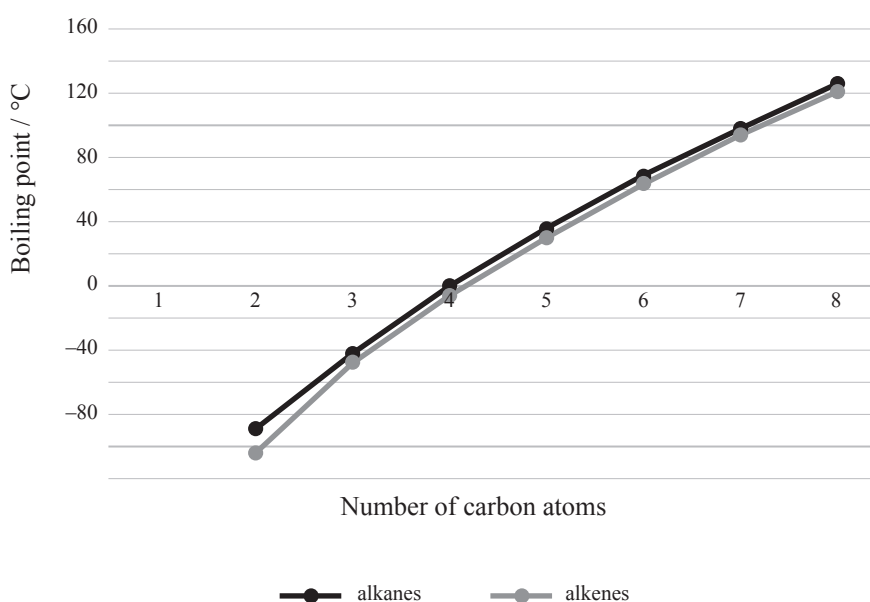
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|-------------|
| Waihā ewaro |
| |

QUESTION ONE

- (a) Both ethane and ethene are classified as hydrocarbons.
- (i) Draw the structural formulae of ethane and ethene in the boxes below:

Ethane	Ethene

Boiling points of straight chain alkanes and alkenes



- (ii) Compare and contrast alkanes and alkenes in relation to:
- the structure and bonding of alkanes and alkenes
 - trends in their boiling points.

In your answer, you should refer to the graph above, and your knowledge of the structure of alkanes and alkenes.

- | |
|---------|
| Ethanol |
| |

Te whārite tohu taurite mō te wāwāhi owaro hei hanga i te waiwaro rua ewaro:

Te whārite tohu taurite mō te whakariterite i te waihā ewaro mā te tukanga moī:

- Ethanol can also be produced by fermentation.

In your answer, you should include:

- a description of the two processes
- explanations of any conditions required
- balanced symbol equations for any reactions occurring, in the labelled boxes below.

Balanced symbol equation for preparation of ethanol using fermentation:

(a) Ka tauhohe ngā kora pērā i te pūwaro ki te hāora hei whakaputa pūngao.

- | |
|--------|
| Pūwaro |
| |

- Whakamāramahia i runga i ēhea āhuatanga ka puta ēnei hua rerekē.

(a) Fuels such as butane react with oxygen to release energy.

- | |
|--------|
| Butane |
| |

- Explain under what conditions these various products are produced.

- | Kora | Ngā mea i roto | Paemahana mura* / °C | Pūngao i puta/kJ L ⁻¹ |
|-------------|----------------------------------|----------------------|----------------------------------|
| Waihā ewaro | C ₂ H ₅ OH | 16.6 | 29 700 |
| Penehīni | he ranunga o ngā waiwaro | −43 | 35 000 |

- kōrero mō ngā raraunga hāngai mai i te ripanga i runga ake
- whai whakaaro ki ngā tauhohenga ngingiha o ia kora
- whakauru ngā pānga o ia kora ki te hauora o te tangata me te taiao.

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(a) Ka whakamahia ngā tauhohenga whakawaerau hei hanga i te waerau e whakamahia noatia ana, te poritene.

- kōrero mō te hanganga o te waetahi
- tuhi ngā āhuatanga e hiahiatia ana mō te tauhohenga, ka whakamārama he aha te take e hiahiatia ana
- homai te tātai hanganga o te poritene.

Te Mātauranga Matū 90932M, 2018

(a) Polymerisation reactions are used to make the commonly used polymer, polyethene.

In your answer you should:

Chemistry 90932, 2018

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**He whārangi anō ki te hiahiatia.
Tuhia te (ngā) tau tūmahi mēnā e tika ana.**

TAU TŪMAHI

MĀ TE
KAIMĀKA
ANAKE

Extra paper if required.
Write the question number(s) if applicable.

QUESTION
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He whārangi anō ki te hiahiatia.
Tuhia te (ngā) tau tūmahi mēnā e tika ana.

TAU TŪMAHI

MĀ TE
KAIMĀKA
ANAKE

Extra paper if required.
Write the question number(s) if applicable.

QUESTION
NUMBER

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English translation of the wording on the front cover

Level 1 Chemistry, 2018

90932 Demonstrate understanding of aspects of carbon chemistry

2.00 p.m. Thursday 15 November 2018
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of aspects of carbon chemistry.	Demonstrate in-depth understanding of aspects of carbon chemistry.	Demonstrate comprehensive understanding of aspects of carbon chemistry.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

A periodic table and other reference material are provided in the Resource Booklet L1–CHEMR.

If you need more room for any answer, use the extra space provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–19 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

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