## **RESOURCES LINK**

LEVEL 2 UNIT 10

#### VERSION 1 JANUARY 2014



Cambridge TECHNICALS

Level 2 and Level 3









## WELCOME

Resources Link is an e-resource, provided by OCR, for teachers of OCR qualifications. It provides descriptions of, and links to, a variety of independent teaching and learning resources that you may find helpful.

In Resources Link you will find details of independent resources, many of which are free: where this is the case this has been indicated.

If you know of other resources you would like to see included here, or discover broken links, please let us know. We would also like to hear from you if have any feedback about your use of these, or other, OCR resources. Please contact us at <u>resourcesfeedback@ocr.org.uk</u>.

We leave it to you, as a professional educator, to decide if any of these resources are right for you and your students, and how best to use them.

#### To give us feedback on, or ideas about the OCR resources you have used, email resourcesfeedback@ocr.org.uk

#### **OCR Resources**: the small print

OCR's resources are provided to support the teaching of OCR specifications, but in no way constitute an endorsed teaching method that is required by the Board and the decision to use them lies with the individual teacher. Whilst every effort is made to ensure the accuracy of the content, OCR cannot be held responsible for any errors or omissions within these resources.

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Oxford Cambridge and RS



#### **Colourful electrolysis**



An interesting introduction to the electrolysis of brine (sodium chloride solution). Students use Universal Indicator to help them follow what is happening during the reaction.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO1 'Be able to describe why a chemical process and its location are chosen'
Cost:	Free
Format:	Web-page with download
http://w	ww.nuffieldfoundation.org/practical-chemistry/colourful-electrolysis

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at
resourcesfeedback@ocr.org.uk

#### **Bulk and fine chemicals**





Two videos about the bulk and fine chemical production.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO1 'Be able to describe why a chemical process and its location are chosen'
Cost:	Free
Format:	Video's
	http://media.rsc.org/alchemy/videos/sa.mpg
	http://media.rsc.org/alchemy/videos/mm.mpg
lf you know	of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at









#### **Virtual tour – Ethanol production**



A virtual tour - includes short video clips of every stage in the production of ethanol.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO1 'Be able to describe why a chemical process and its location are chosen'
Cost:	Free

Format: Web-page with interactive videos

http://english.unica.com.br/virtual-mill/video-new/virtual-mill.htm

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at
resourcesfeedback@ocr.org.uk

#### **Chemical Processing Plant: A Virtual Tour**



This is a pdf/PowerPoint presentation with detailed instructions as to how chemicals are produced on an industrial scale.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO1 'Be able to describe why a chemical process and its location are chosen'
Cost:	Free
Format:	Web-page
http://v	www.fipr.state.fl.us/pondwatercd/chemical_processing_tour.pdf

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at







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#### **Fermentation of glucose using yeast**



This is a detailed practical investigation into the fermentation of glucose using yeast.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO1 'Be able to describe why a chemical process and its location are chosen'
Cost:	Free
Format:	Web-page with download
http://ww	w.nuffieldfoundation.org/practical-chemistry/fermentation-glucose- using-yeast
	of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources

listed here. Please contact us at

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# Industrial production of ethanol from sugar cane

			Nsb Not	es			
Resources	Preliminary	HSC Science	Engineering	HSIE	Subject Requests	Forum	Rules
Industrial Fermentation - Ethanol i - A concentr - Immedia - Acontol c - This per - Fermenth - Source - Fermenth - Concentr - Co	production of a product on the second from more about the conversion of a growth work, the conversion of a growth work, the conversion of a growth work of a second product of the second development of the second second second second development of the second second second second second development of the second second second second second second development of the second secon	ethanol from s sses, a product of sugar wilv molesses is tid to ins to othanol occurs ined constant at about 4 y concentrated substrat 3 days and nutrients suc of ethanol – excess heat of ethanol – excess heat	ugar cane cane. 4%, ww by ethanoi reme as and etiminates athan as phesphone athan removed by continuous volutiles scrubbed with tration of 8-10%	it flow rate so r vol. of inhibition of d unea ensure circulation of t	residual sugars are maintaine The yeast activity.	d at a very low late heat exchan	ger

This page provides detailed information about the conditions required for the reaction to occur, processes/ stages of production of ethanol and scientific theory.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO1 'Be able to describe why a chemical process and its location are chosen'
Cost:	Free
Format:	Web-page with download
	http://nsb.wikidot.com/c-9-2-3-12
If you know o	of any resources that you think should appear here, or if you identify broken links please let us know. We

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at









#### **Production of ethanol from ethene**

Ethanol	from Ether	1e						
Ethanol is m	anufactured by	the hydration of	of ethene using	steam in the	presence of a	phosphoric aci	d catalyst.	
chemical eq	uation	phosphor catal	ic acid	ų ų				
C=	=C + H	20 =		ç—ç-	-он			
H/	H			1 1				
	n has a theoretic ich as methanol.				conomy) of 10	00%, but some s	ide reactions oc	cur producing by-
products su	ich as methanol,	etilariai, polyti	nene and ethox	yeuriarie.				
Condition						ur this exotherm		
	e of 300°C, a pre						ic reaction. In pr	actice, a
		und 5% conve				he plant. By con	tinually recycling	the unreacted
				a continuous	process.			
ethene and	e conditions, arou steam, an overa roduced as part			trochemical	production.			
ethene and Ethanol is p The p	steam, an overa	of an integrate		trochemical ethene	production.	nol		

This page provides detailed information about the conditions required for the reaction to occur, processes/ stages of production of ethanol and scientific theory.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO1 'Be able to describe why a chemical process and its location are chosen'
Cost:	Free
Format:	Web-page with download

http://www.greener-industry.org.uk/pages/ethanol/ethanol6PM1.htm

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at
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### **Video of fermentation**



Howstuffworks video, explaining the uses of fermentation to create a wide range of products.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO1 'Be able to describe why a chemical process and its location are chosen'
Cost:	Free
Format:	Web-page with download
http://vide	eos.howstuffworks.com/discovery/34874-howstuffworks-show-episode- 5-fermentation-video.htm
lf you know	of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources

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#### **Electrolysis of copper(II) sulfate solution**



Practical instructions to enable learners to carry out the electrolysis of copper(II) sulfate solution and to link their findings with the industrial electrolytic refining of copper.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO1 'Be able to describe why a chemical process and its location are chosen'
Cost:	Free
Format:	Web-page
http://w	ww.nuffieldfoundation.org/practical-chemistry/electrolysis-copperii- sulfate-solution
,	of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

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#### **Batch and continuous processing**

Subjects V	Home > Science > OCR Gateway Additional Science (Pre-2011) > Chemical		
Art & Design Business Studies	continuous processing	economics >	Batch and
Design &	Science Print 🖸	C Chat	
Technology	Batch and continuous processing	Chat	
Drama	Page: 1 2 3 4 Next >	6	Science Message
English English Literature French	Batch processing and continuous processing are two different ways of	N	Board Post ideas and
Geography	manufacturing chemicals. Well-established processes, such as the	discuss Scien	
German History	Haber process to produce ammonia, are manufactured continuously.	-	
ICT	Speciality chemicals such as medicines are usually made on a smaller scale, one batch at a time because of time and cost considerations.	C Activi	ity
Irish Maths Music	The raw materials for pharmaceuticals can be made synthetically and also extracted from plants.	REVISION	Revision Map
Physical Education Religious Studies	Continuous processes	Walla	some visual style with a Bitesize
Science Spanish	When ammonia is manufactured in the Haber process, the raw materials are		revision map!
Welsh 2nd	fed continuously into the reactor. The process is carefully designed so that	C Links	
Language	the ammonia is extracted from the gas stream and leftover nitrogen and	Chines	
Audio	hydrogen are fed back to the beginning without the process stopping.		<b>BBC Science</b>

Explanation of Batch and continuous processing.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO1 'Be able to describe why a chemical process and its location are chosen'
Cost:	Free
Format:	Web-page
http://w	ww.bbc.co.uk/schools/gcsebitesize/science/add_gateway_pre_2011/ chemical/batchcontinuousrev1.shtml
If you know	of any resources that you think should appear here, or if you identify broken links please let us know. We

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#### **Ions in solution – Electrolysis activity**



BBC Bitesize activity based on electrolysis. Useful for student only use or as an interactive tool within lesson.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10'Chemistry of Production' - LO1 'Be able to describe why a chemical process and its location are chosen'
Cost:	Free
Format:	Animation/activity
http://www	v.bbc.co.uk/schools/gcsebitesize/science/21c/chemicals_in_our_lives/ manufacture_chemicalsact.shtml

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at
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### **Investigating the Effect of Concentration on the Rate of a Chemical Reaction**



Practical details to investigate the effect of concentration on the reaction.

Supports:OCR Level 2 Cambridge Technical Certificate/Extended CertificateDiploma in Science - Unit 10 'Chemistry of Production' - LO2 'Be able to describe the factors that govern the rate and yield of chemical process'	
Cost:	Free
Format:	Web-page with download
http://www	w.nationalstemcentre.org.uk/elibrary/resource/9578/investigating-the- effect-of-concentration-on-the-rate-of-a-chemical-reaction
If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at	









## Burning milk powder - the effect of surface area on reaction rate



Short video clip 'Burning milk powder, accompanied with teacher notes.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO2 'Be able to describe the factors that govern the rate and yield of a chemical process'	
Cost:	Free	
Format:	Web-page with download	
http://www.rsc.org/Education/Teachers/Resources/Practical-Chemistry/Videos/ surface-area-on-reaction-rate.asp		
If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources		

listed here. Please contact us at resourcesfeedback@ocr.org.uk

# Catalysts for the decomposition of hydrogen peroxide



Practical details about the decomposition of hydrogen peroxide.

OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO2 'Be able to describe the factors that govern the rate and yield of a chemical process'
Free
Web-page with download
http://www.rsc.org/images/catalysts_tcm18-188821.pdf

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at









#### Sulfuric acid and the Contact process



Video clip describing the manufacture of sulfuric acid using the Contact process.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/
	Diploma in Science - Unit 10 'Chemistry of Production' - LO2
	'Be able to describe the factors that govern the rate and yield of a chemical process'
	· · · · · · · · · · · · · · · · · · ·

Cost: Free

Format: Web-page with download

http://www.youtube.com/watch?v=\_zj3bMjFclA

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

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### **Collision Theory**

	A 20
	B
	20
	temperature 20
	volume
	400
	A size
	B size
	20 product size
	20
	setup
	start
A 0 B 0 P 0 Time (s) 0	stop

This web-page provides an easy to manipulate animation of collision theory.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO2 'Be able to describe the factors that govern the rate and yield of a chemical process'
Cost:	Free
Format:	Web-page
	http://www.kscience.co.uk/animations/collision.htm

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at







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#### **Collision theory and rates of reaction**

LEARNING ZONE BROADBAND	CL/	SS CLIP	64(→	<b>{</b> → [ →	
Home Help More BBC video	,			Schools Learni	ng Zone
SEARCH BY KEYWORD	OR CLIP NUMBER			SEARCH >	
CLIP 10668 Collision theory and rates of r	eaction		6 🔀 Sha	🛚 🛃 💟 Open all info pa	inels
		-			

An animated video designed to describe collision theory and what factors affect rates of reaction

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/
	Diploma in Science - Unit 10 'Chemistry of Production' - LO2
	'Be able to describe the factors that govern the rate and yield of a
	chemical process'

- Cost: Free from the BBC
- Format: Video clip/animated film

http://www.bbc.co.uk/learningzone/clips/collision-theory-and-rates-ofreaction/10668.html

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# **Rate of reaction - the effects of concentration on reaction rate**



RSC practical investigation into the effect of concentration on rate of reaction. List of equipment/chemicals required, method to follow, health and safety issues and teacher notes to aid in the delivery of this task.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO2 'Be able to describe the factors that govern the rate and yield of a chemical process'	
Cost:	Free	
Format:	Web-page	
http://www.rsc.org/learn-chemistry/resource/res00000743/the-effect-of- concentration-on-reaction-rate?cmpid=CMP00000821		
If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at resourcesfeedback@ocr.org.uk		









### Investigating the Rate of Reaction Between Marble Chips (Calcium Carbonate) and Hydrochloric Acid



Practical investigation into the rate of reaction between marble chips and hydrochloric acid.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/
	Diploma in Science - Unit 10 'Chemistry of Production' - LO2
	'Be able to describe the factors that govern the rate and yield of a chemical process'

Cost: Free

Format: Web-page

http://www.studymode.com/essays/Investigating-The-Rate-Of-Reaction-Between-1115998.html

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at
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# **Rate of reaction – the effects of concentration and temperature**

Home > Re	es - Wiki Commu sources > Rale of reaction -		Higher Education centralion and	<ul> <li>About</li> </ul>	More 🛩	Search Learn Chemistry		9
Classic (	hemistry Experiment	s : Rate of read	tion - the effects o	f concentrat	ion and temperatur	e		
Type of Ac Subjects :	Teaching chemistry Te Practicel investigations	aching approaches		Experiment 6	-	n More y		
	reaction - the effect						<b>{{</b> Download	÷
	tration and tempera	ture						

RSC practical investigation into the effect of concentration and temperature on rate of reaction.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO2 'Be able to describe the factors that govern the rate and yield of a chemical process'
Cost:	Free
Format:	Web-page
•	v.rsc.org/learn-chemistry/resource/res00000413/rate-of-reaction-the- ects-of-concentration-and-temperature?cmpid=CMP00000483
	any resources that you think should appear here, or if you identify broken links please let us know. We yould also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at









## **BBC Bitesize - Ammonia and the Haber**

process



Details the stages in the production of ammonia.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO2 'Be able to describe the factors that govern the rate and yield of a chemical process'	
Cost:	Free	
Format:	Web-page	
http://ww	w.bbc.co.uk/schools/gcsebitesize/science/add_aqa_pre_2011/chemreac/ energychangesrev3.shtml	
If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at		
	resourcesfeedback@ocr.org.uk	

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#### **Iodine clock reaction**



RSC practical investigation into the effect of catalysts on the rate of reaction.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO2 'Be able to describe the factors that govern the rate and yield of a chemical process'
Cost:	Free
Format:	Web-page
http://ww	ww.nuffieldfoundation.org/practical-chemistry/iodine-clock-reaction

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at







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#### The Barking Dog Experiment



This web page contains a video that could be used to introduce the effect of pressure on the rate of reaction.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO2 'Be able to describe the factors that govern the rate and yield of a chemical process'
Cost:	Free
Format:	Web-page
http://	www.thenakedscientists.com/HTML/content/kitchenscience/garage- science/exp/the-barking-dog-experiment/
lf you know	y of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources

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#### The methane rocket



Practical task to test the effect of pressure using a variety of different ratios of gases to see which one creates the most pressure and allows the rocket to travel the furthest distance.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO2 'Be able to describe the factors that govern the rate and yield of a chemical process'
Cost:	Free
Format:	PDF
h	ttp://www.rsc.org/images/methanerocket_tcm18-188848.pdf

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at









#### The decomposition of magnesium silicide



An experiment to illustrate a reaction with low activation energy.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' LO2 'Be able to describe the factors that govern the rate and yield of a chemical process'	
Cost:	Free	
Format:	Web-page	
http://www	r.rsc.org/learn-chemistry/resource/res00000456/the-decomposition-of- magnesium-silicide	
If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at resourcesfeedback@ocr.org.uk		

### **Rates of reaction - Activation energy**



Explanation of activation energy.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO2 'Be able to describe the factors that govern the rate and yield of a chemical process'
Cost:	Free
Format:	Web-page
	http://www.gcsescience.com/rc24-energy-level-diagram.htm
If you know	of any resources that you think should appear here, or if you identify broken links please let us know. We

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at









#### The Case of the Sulphuric Acid Plant



#### Video clip about the contact process.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' LO3 'Know how waste treatment methods can be used to minimise the environmental impact of a chemical process'
Cost:	Free
Format:	Video
	http://www.youtube.com/watch?v=r7XdRMNXVgM

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#### Ammonia video



You tube video created by the RSC – detailing the production of ammonia by the Haber process. Explanation of the stages of production, chemicals involved, uses of the products created in the reaction.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO3 'Know how waste treatment methods can be used to minimise the environmental impact of a chemical process'
Cost:	Free
Format:	Web-page
	http://www.youtube.com/watch?v=wiwl4eoHbig

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at









#### **Green chlorine – Electrolysis of brine**



This pdf document includes practical work that will enable students to carry out electrolysis within a laboratory setting. There are clear instructions for three methods that link to industry and the key scientific information that both the student and teacher will require in order to fully understand the processes.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO3 'Know how waste treatment methods can be used to minimise the environmental impact of a chemical process'
Cost:	Free

Cost:

Web-page based PDF document Format:

http://www.ciec.org.uk/2%20Topic%20Bank/texts/GreenChlorine.pdf

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at resourcesfeedback@ocr.org.uk

### **Recycling Cities – The production and** management of waste for polymers



This pdf document contains information about practical tasks related to the production and management of waster for polymers. Technicians notes are provided and teacher delivery notes to enable the successful delivery of each task.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO3 'Know how waste treatment methods can be used to minimise the environmental impact of a chemical process'	
Cost:	Free	
Format:	Web-page with PDF downloads	
http://www.ciec.org.uk/2%20Topic%20Bank/texts/RecyclingCities.pdf		
	of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources	

listed here. Please contact us at resourcesfeedback@ocr.org.uk









#### **Leblanc Process**



Short video clip detailing the reactants, products, waste, pollution produced from the Leblanc process – which is the method used to produce alkali's in industry.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO3 'Know how waste treatment methods can be used to minimise the environmental impact of a chemical process'
Cost:	Free
Format:	Video
	http://www.voutubo.com/watch?v=6V11vwiui611

http://www.youtube.com/watch?v=6XJ1ywiuj6U

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at
resourcesfeedback@ocr.org.uk

#### The electrolysis of solutions



RSC practical investigation of the electrolysis of solutions.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO3 'Know how waste treatment methods can be used to minimise the environmental impact of a chemical process'	
Cost:	Free	
Format:	Web-page	
http://ww	http://www.rsc.org/learn-chemistry/resource/res00000466/the-electrolysis-of- solutions?cmpid=CMP00000536	
	If you know of any resources that you think should appear here, or if you identify broken links please let us know. We	

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#### Du pont safety clothing



This is a product catalogue for safety clothing. The clothing is clearly labelled with benefits and coding system that identifies which chemicals/substances it is suitable to wear when handling.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO4 'Know how the chemical industry maintains a good safety record in the manufacture and transport of chemicals'
Cost:	Free
Format:	PDF - Web-page

http://www2.dupont.com/Personal\_Protection/en\_GB/assets/PDF/LIT\_EN\_DPP\_ Catalogue.pdf

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at
resourcesfeedback@ocr.org.uk

### **Ammonia fountain**

Nuffield	Social policy Education Capacity building Teachers Apply for funding
Foundation	Improving social well-being through education, research and innovation
Practical Chemistry	
A collection of experiments that	demonstrate chemical concepts and processes.
In partnership with RSC   Adv	ancing the Search Practical Unternisity mical Sciences Enter your search item go
RSC Advancing the Chemical Sciences	ammonia fountain
	Demonstration
Topics	This demonstration experiment can be used to illustrate the very high solubility in water of ammonia.
> States of matter	Ammonia solution is seen to be alkaline and various indicator colour changes can be demonstrated. A flask, fitte with a glass jet, is filled with dry ammonia. Injecting water into the flask dissolves the ammonia and causes a
» Bonding, structure, properties	fountain via the jet.
> Mixtures and separation	To view a video clip of this demonstration experiment, click here.
> Analysis	

Practical Investigation/demonstration – to engage students and show the uses/reactions that take place with ammonia.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO4 'Know how the chemical industry maintains a good safety record in the manufacture and transport of chemicals'	
Cost:	Free	
Format:	Web-page	
http://w	http://www.nuffieldfoundation.org/practical-chemistry/ammonia-fountain	

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Oxford Cambridge and R



#### **CLEAPPS Hazcards**



Hazcards for all of the chemicals that are used in the school laboratory and in industrial production. Health and safety details, first aid treatment, appropriate storage and handling of the chemicals

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO4
	'Know how the chemical industry maintains a good safety record in
	the manufacture and transport of chemicals'
Cost:	Free

Format: Web-page

http://www.cleapss.org.uk/secondary/secondary-science/hazcards?start=150

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resourcesfeedback@ocr.org.uk



### Laboratory spill response



Video clip detailing the correct procedures for handling chemical spillages in industry.

Supports:	OCR Level 2 Cambridge Technical Certificate/Extended Certificate/ Diploma in Science - Unit 10 'Chemistry of Production' - LO4 'Know how the chemical industry maintains a good safety record in the manufacture and transport of chemicals'
Cost:	Free
Format:	Video
	http://www.youtube.com/watch?v=Dtp9vT15qls

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at











#### **Resources Index**

click on a resource to go to the appropriate page.

## LO1 - Be able to describe why a chemical process and its location are chosen

- Colourful Electrolysis
- Bulk and fine chemicals
- Virtual tour Ethanol production
- Chemical Processing Plant A Virtual Tour
- Fermentation of glucose using yeast
- Industrial production of ethanol from sugar cane
- Production of ethanol from ethene
- Video of fermentation
- Electrolysis of copper(II) sulfate solution
- Batch and continuous processing
- lons in solution Electrolysis activity

#### LO2 - Be able to describe the factors that govern the rate and yield of a chemical process

- Investigating the Effect of Concentration on the Rate of a Chemical Reaction
- Burning milk powder the effect of surface area on reaction rate
- Catalysts for the decomposition of hydrogen peroxide
- Sulfuric acid and the Contact process
- Collision Theory
- Collision theory and rates of reaction
- Rate of reaction the effects of concentration on reaction rate
- Investigating the Rate of Reaction
   Between Marble Chips (Calcium)
- Carbonate) and Hydrochloric Acid
- Rate of reaction The effects of concentration and temperature

### **Resources Index**

click on a resource to go to the appropriate page.

- BBC Bitesize Ammonia and the Haber process
- lodine clock reaction
- The Barking Dog Experiment
- The methane rocket
- The decomposition of magnesium silicide
- Rates of reaction Activation energy

LO3 - Know how waste treatment methods can be used to minimise the environmental impact of a chemical process

- The Case of the Sulphuric Acid Plant
- Ammonia video
- Green chlorine Electroysis of brine
- Recycling Cities The production and
- management of waste for polymers
- Leblanc Process
- The electrolysis of solutions

#### LO4 - Know how the chemical industry maintains a good safety record in the manufacture and transport of chemicals

- Du pont safety clothing
- Ammonia fountain
- CLEAPPS Hazcards
- Laboratory spill response





## Cambridge TECHNICALS







