MEL Chemistry

WARNING!

- Not suitable for children under 10 years.
- For use under adult supervision.
- Contains some chemicals which present a hazard to health.
- Read the instructions before use, follow them and keep them for reference.
- Do not allow chemicals to come into contact with any part of the body, particularly the mouth and eyes.
- Keep small children and animals away from experiments.
- Keep the experimental set out of reach of children under 10 years old.

WARNING!

Read the instructions before use, follow them and keep them for reference. This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

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Customer service support

Any components missing from the kit? Chemicals arrived spilled in the box? Please contact us immediately!

We will gladly answer any questions concerning experiments, kit contents, our app and **melscience.com** website functionality.



You can reach us:

- via email: **support@melscience.com**;
- using Skype: MELScienceSupport;
- through the live chat window on our website;
- by phone:

  +1 855 971 2330 (US)

  +44 203 695 1721 (UK)



Safety

How to act in the chemistry laboratory

Workplace

Keep in mind that your desk will turn into a chemical lab table during your experiment! So, please follow these important guidelines:

- do not keep food or drinks at your lab table;
- work carefully and do not rush;
- do not work unless someone is present to supervise you. Even trained chemists cannot conduct experiments alone in a lab;
- clean your workbench thoroughly after every experiment.



Instructions

Please review the general safety requirements for all equipment and chemicals in order to keep the experiments safe.

In addition to general safety requirements, each experiment has its own safety guidelines.

Chemicals

The chemicals supplied for use in our experiments are not harmful if used as outlined in our safety guidelines.

One more important point: all chemists (including you, as a novice chemist!) should know all the properties of the chemicals they use. Therefore, carefully read the manuals and safety rules on the reagent bottles. You can find more information about each compound in various resources (such as books and educational websites, including our website **melscience.com**).



Safety requirements

- Read these instructions before use, follow them and keep them for reference.
- Keep young children, animals and those not wearing eye protection away from the experimental area.
- Always wear eye protection.
- Store this chemistry set out of reach of children under 10 years of age.
- Clean all equipment after use.
- Make sure that all containers are fully closed and properly stored after use.
- Ensure that all empty containers are disposed of properly.
- Wash hands after carrying out experiments.
- Do not use any equipment which has not been supplied with the set or recommended in the instructions for use.
- Do not eat or drink in the experimental area.
- Avoid skin or eye contact with chemicals. Do not ingest.
- If a container or a piece of glassware intended for direct food contact was used during an experiment, please discard it immediately after use. The container is no longer safe for food handling.



Do not eat or drink while performing experiments.



Always wear protective glasses.



Keep a careful eye on small children. Do not allow them to play with experimental equipment.



Always wash your hands after an experiment.

First aid measures

- In case of eye contact: wash out eye with plenty of water, holding eye open if necessary. Seek immediate medical advice.
- If swallowed: wash out mouth with water, drink some fresh water. Do not induce vomiting. Seek immediate medical advice.
- In case of inhalation: remove person to fresh air.
- In case of skin contact and burns: wash affected area with plenty of water for at least 10 minutes.
- In case of doubt, seek medical advice without delay. Take the chemical and its container with you.
- In case of injury always seek medical advice.
- For urgent medical help or advice contact the regional poison center at 1-800-222-1222 (in the USA) or 111 (in the UK) or seek medical attention immediately by calling 911 (USA), 112 and 999 (UK) or going to a local emergency department.

Phone number
of closest local emergency department,
please fill in right away:

Information for parents

- Read and follow the instructions, safety rules, and first aid information, and keep them for reference.
- The incorrect use of chemicals can cause injury and damage health. Only carry out the experiments listed in the instructions.
- This experiment set only for children over 10 years.
- Because children's inclinations vary widely even within age groups, supervising adults should exercise discretion as to which experiments are suitable and safe for them. The instructions should enable supervisors to assess any experiment to establish its suitability for a particular child.
- The supervising adult should discuss the warnings and safety information with the child or children before beginning an experiment. Particular attention should be paid to the safe handling of acids, alkalis and flammable liquids.
- The area surrounding the experiment should be kept clear of any obstructions and away from the storage of food. It should be well lit and ventilated and close to a water supply. A solid table with a heat-resistant surface should be used.
- Substances in non-reclosable packaging should be used up (completely) during the course of one experiment, i.e. after opening the package.

Why are all the MEL Chemistry sets safe for use?

We have spent a tremendous amount of time making sure all our chemistry sets are safe for use.

- All our sets conform to EU and US safety standards.
- Each set is provided with detailed instructions.
- Our website covers each experiment with a video guide, thus minimizing possible errors.
- Safety glasses both for a child and an adult are included in the starter kit.
- Where necessary, protective gloves are also supplied in our chemistry sets.
- There are no explosive experiments in any of our chemistry sets.
- All chemicals are provided in the minimum quantities necessary for each experiment.
- Chemical containers are closed securely.

Disposal of chemicals

All chemical residues must be disposed of in accordance with applicable local, regional, and national laws and regulations. Please refer to the experiment instructions on proper disposal of chemicals used.

Battery safety precautions

- Some experiments require batteries (not included). You can purchase these locally.
- Follow the instructions included in each chemistry set.
- Do not charge non-rechargeable batteries. They may explode.
- Remove and safely dispose of exhausted batteries immediately.
- Do not short-circuit batteries. When batteries' positive (+) and negative (-) terminals are in contact with each other, the battery can short-circuit. For example, such contact may occur through metal or graphite objects rendering the battery short circuited and possibly resulting in venting or explosion.
- Do not heat batteries or bring them in contact with fire.
- Do not crush, puncture, dismantle or otherwise damage batteries. Discard all damaged batteries immediately.
- Never use sources of electricity not specified in the instructions (wall sockets, etc.). It could be lethal!
- Do not use battery types not specified by the instructions or packaging labels.
- Remove batteries and disconnect all wires and clamps after the experiment.



Safety glasses specification

- **Packaging:** suitable for transportation and storage.
- **Accessories:** not applicable.
- **Usage:** replace if scratched, soiled or damaged.
- **Replacement:** only with the exact same model or a model with the same safety certification.
- **Adjustment:** you can adjust the glasses' arm length to provide a custom fit.
- **Caution!** In rare instances, glasses may cause contact dermatitis. In this case, stop using them immediately.
- **Before use:** check glasses for any damage and replace if needed.
- **Storage:** in a dry place at room temperature. Place the glasses back into their slot in the starter kit box after each use. This way you will prevent any accidental scratching or other damage to your glasses.
- **Clean:** with a stream of water or a soft, damp cloth. Add mild detergent if necessary. Do not use abrasive cloth or harsh chemicals as they will permanently damage the surface of your glasses.
- **Limitations of use:** not intended for protection from biohazards, laser beams, heat above 70 °C [158 °F], molten metal particles, during welding.
- **Certification:**

  EN 166—European standard for eye protection

  CE—European Conformity sign

  ANSI Z87.1—American National Standards Institute standard for eye and face protection

Welcome to the wonderful world of chemistry!

You have subscribed to MEL Chemistry and this means that your breathtaking journey into chemistry has begun!

Chemistry is an ancient and very interesting natural science. It helps us understand the world around us more deeply and improve the lives of millions of people all over the world. Life saving medicines, plastics, sophisticated scientific and industrial equipment, stainless steel—all of these owe their existence to chemistry.



Though chemistry might seem complicated it is one of the most exciting sciences. Chemical reactions take place right in front of you, for example, when you cook. When you eat a hamburger, gastric juice inside your body starts to digest it—this process also involves chemical reactions.

MEL Chemistry helps you learn more about the everyday things around you and gives you an opportunity to visit the marvelous world of molecules and atoms, which make everything in the Universe look the way we see it. All in all, chemistry studies matter and the way it changes. For it, each change matters.




MEL
Science

MEL Chemistry subscription

Subscription

If you are reading these words, this means that you have subscribed to MEL Chemistry. How does this subscription work?



Getting started

So, you have received your first shipment with almost everything necessary to begin the experiments! Have fun!



Monthly package

Each monthly package contains fascinating experiments that you can conduct at home!



Experiments

There are 2-3 experiments in each set, which take no more than 2 hours to perform.



Website

On our website **melscience.com** you can find video instructions and scientific descriptions for all of the experiments in the sets.



Subscription control

You can stop/resume your subscription at any time from your account settings. Also, you can pause the subscription for up to three months.

What is included in the first shipment?

The first shipment should contain three boxes: the large box is a starter kit, the small box contains a VR headset, and the medium box(es) contain one or more experiment sets. The number of experiment sets depends on your subscription plan.



- Your starter kit includes all chemical equipment necessary for performing the experiments.



- Your experiment set(s) will be your first encounter with the world of chemistry!



- Want to explore chemistry more in-depth? Use our app to see how the molecules of the substance you are working with look in 3D!



Subscription: FAQ

For what age are the sets appropriate?

- We normally advertise our chemistry sets for children 10 years and older, so the most appropriate age is from 10 to 14 years old.

How often are the experiment sets shipped?

- Once a month. Each experiment set includes 2-3 experiments. The number of experiment sets shipped per month depends on your subscription plan.

When do you charge for each shipment?

- About 5-10 days before the shipment arrives. There is no fixed date at the moment.

Do I need to pay for shipping?

- No, the shipping cost is included in the price of the subscription.



What items should each experiment set contain?

- You can see a list of the items inside each set on the reverse side of the outer packaging.

How many times can I repeat the experiments?

- We include enough reagents to perform each experiment at least twice.

What to do if something is missing?

- Contact our customer support service via +18559712330 (US), +442036951721 (UK) or **support@melscience.com** and we will send you the missing item.

I opened the starter kit for the first time and the beaker (flask) was broken. What should I do?

- Our customer support service will replace the broken item. Please call +18559712330 (US), +442036951721 (UK) or contact us via **support@melscience.com**.

For any other questions regarding your subscription, please contact our customer support service.


MEL
Science

Before you start

Before you start...

All chemists need a workplace to perform their experiments. The first thing that should be in your workplace is the plastic tray, included in the starter kit. The tray will contain all possible spills. Keep pets and flammable mixtures away from your workspace and provide it with good ventilation. Follow the safety recommendations while performing the experiments.





You might have seen chemists wearing protective gloves, goggles, and white coats. All of this safety equipment protects them from sudden spatters of the substances that they are working with.

MEL Chemistry experiments are safe enough to be performed without a special coat. However, most of them still require the use of protective gloves. The protective goggles must be worn during all of our experiments.

FAQ

Where can I find protective gloves?

- All of our chemistry sets requiring gloves include two pairs of safety gloves in two different sizes, so a parent can do the experiment together with their young scientist.

Why are there two pairs of protective gloves and goggles?

- The smaller pair is for the young chemist; the larger pair is for a parent.

Can I adjust the length of the earpieces of the protective goggles?

- Yes, you can. Push the circular part of the earpiece into the straight part to make the earpiece shorter. Pull the circular part of the earpiece out of the straight part to make the earpiece longer.

Are the items from the chemistry set and starter kit always enough to do the experiment?

- Sometimes additional items are needed for the experiment, such as AAA batteries or milk. Most of these items can be easily found at home. You can find the list of necessary items on the reverse side of the outer packaging of the chemistry set or in the e-mail regarding the shipment, which we send 5-10 days before its arrival.



What’s next?

You've performed your experiments—what's next?

Check out our website at **melscience.com** to learn more about the science behind your experiments!

Each experiment page includes the following sections:



Video instruction

Watch our experiment videos anytime. Don't miss new ones!



Safety

Follow all safety precautions in order to perform experiments in the safest way!



FAQ and troubleshooting

Did something go wrong? In this section you will find advice on how to overcome possible difficulties!



Step-by-step instruction

Here you can find text and graphic instructions for your experiments.



Expected result

This section is a bit of a spoiler of the experiment results, but it describes what will happen in brief.



Disposal

How can you dispose of all reaction mixtures in a safe and environmentally friendly way? Find out here!



Scientific description

The chemistry behind the experiments is sometimes complex, but our scientific description section can help!



Follow up

Experiment with the substances around you and conduct even more experiments than are included in your chemistry set!

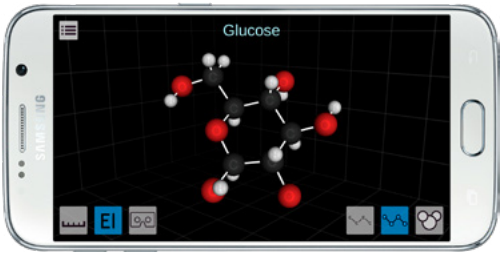


That's interesting

More interesting facts about chemistry and the world around you!

Our app

Want to take a closer look at the molecules you're working with? Install our MEL Chemistry app! It will show you the structures of the substances contained in your chemistry set.



Scan the MEL codes on your reagent bottles and experiment cards!



Just open the app and move an item with a MEL code on it to the front camera. You will hear a special tone when the camera recognizes the code, and the experiment or substance page will appear on the screen.



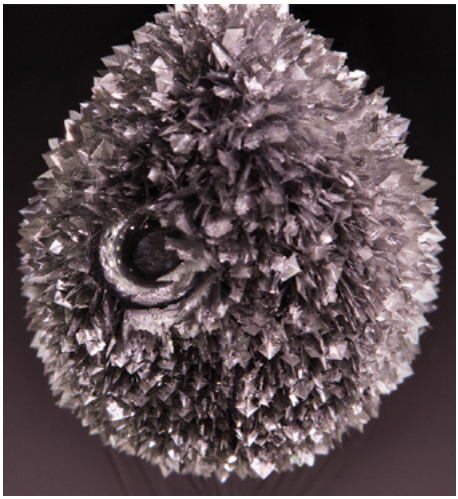
What does a macro lens do?

Macro lenses help us take a closer look at our reaction mixtures. Just attach a macro lens to the rear camera of your smartphone and take a photo!



Using a macro lens, you will be able to capture cool chemical transformations and share them with your friends!





For your notes



WARNING: CHOKING HAZARD
Small parts. Not for children under 3 years.

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