HEALTH AND SAFETY GUIDANCE

For staff & subscribers of:

EMPIRIBOX
Primary School Science

Dated: August 2020
Review Date: August 2021

Contents

Introduction

Empiribox is a UK company set up to provide science support to Primary Schools and providers of Lifelong Education in England, Scotland, Wales, and Northern Ireland. This support includes provision of several age and ability appropriate experiments and equipment.

All experiments are based around the requirements of the UK Science National Curriculum for Key Stage One (KS1, ages 5-7) and Key Stage Two (KS2, ages 7-11), so Empiribox provides each school with chemicals and specialist science equipment (including electrical equipment) that necessitates 'narrow use' guidance for users.

The guidance here reflects the UK legislative framework and as such, may change from time to time. Empiribox will notify subscribers if new regulations require a change in procedures.

Public Liability Insurance

This is provided by Aviva Insurance Limited, Policy Number 100562095CCI.

A copy of the certificate can be found on the Health and Safety tab (within General Resources) at www.empiribox.com

Key Empiribox Personnel (Nominated Personnel)

In the event of emergencies or general health and safety enquiries:

Head of Health and Safety: support@empiribox.org 01865 670 067

Equipment

For KS1, schools receive – termly - 6 different sets of kit over a 2-year period, whereas KS2 has 12 different sets (over 4 years). Kits are generally delivered and collected on a termly basis (this is flexible and can change depending on the individual requirements of a school). Each kit contains equipment for activities based on the broader subjects of physics, chemistry and biology, and is placed in school on a lockable trolley supplied by Empiribox.

Disclaimers

Risk assessments are provided in good faith and should be used in conjunction with your Employer's own Health and Safety Policy. Empiribox is not responsible for any deviation from the guidance set out here and in the Lesson Plans provided. All activities should only be conducted on school premises under the supervision of a suitably trained individual. Empiribox is not liable for any activity conducted off-school premises, or lessons taught by untrained persons.

General Guidance

In each unit, Risk Assessments (RAs) are provided. Some units - such as Animals including Humans - only require a general risk assessment for the whole unit. Others, such as the Irreversible Changes Unit, require more comprehensive guidance, so a Risk Assessment is provided for every lesson. These risk assessments can be found in the school master file sent to you by our Primary Support Team or in the Health and Safety tab in Teacher Area at www.empiribox.com Subscribers must adhere to the guidance set out in each RA with no deviation. These risk assessments must be read in conjunction with a school's own Health and Safety policy.

Risk Assessments and Empiribox Training

Teachers are not permitted to teach any Empiribox lesson without first being trained. Many teachers attend training provided by Empiribox, and these individuals can immediately sign each RA associated with a Program of Study and begin teaching those lessons. A copy of the signed Risk Assessments must be readily available for inspection by any third party. Empiribox recommends that copies are kept in the school Health and Safety folder, and teachers keep their own copy.

Non-attendees to Empiribox training are not permitted to teach the lessons unless the school ensures those individuals are trained. This will usually take place by a process of dissemination by an individual who has attended Empiribox training. Once trained, as before, they will sign the risk assessments and begin teaching. This is particularly true of individuals who have no experience of previously teaching Empiribox i.e. teachers who join subscribing schools part way through the school year.

Safety Data Sheets (SDS)

Each chemical used has its own SDS. These can be found at www.empiribox.com in each subject tab and in the appendix of this guidance. They contain information about each chemical, storage, spill, and disposal procedures as well as actions on contact with skin, eyes, and ingestion.

Equipment Safety Sheets (ESS)

Each class of equipment, and every item of specialist equipment has its own ESS. These can be found in the on the Health and Safety tab of the teacher's area at www.empiribox.com They contain information about the use and fault procedures.

Delivery

Once subscribers receive the kit, a designated individual MUST check off the equipment against the kit lists provided to ensure completeness of the kit. This is a crucial step in the H&S process as the safety of each activity may be compromised without complete kit. Teachers must never attempt to conduct practical work with incomplete kit for this reason. Any broken kit should be reported to support@empiribox.org and disposed of if appropriate.

Chemical Handling and Storage

On receiving the chemicals, please check that the boxes they come in are dry and the container lids of each chemical is screwed on tightly. In the event that a chemical container has been compromised and spillage occurred in transit, please wear appropriate gloves before further handling, and inform Empiribox using the support@empiribox.org email address.

Assuming chemicals arrive as they should, immediately transfer the black storage box provided by Empiribox and inserted into the trolley, which is then locked. There is one exception to this; the hydrogen peroxide used in the States of Matter and Irreversible Changes Units should be stored in a refrigerator away from child access (i.e. not a classroom refrigerator). Please note that when carrying the chemicals, where possible they should be carried in the black box. When chemicals must be moved out of the box, you should never overload yourself by carrying more than one bottle at a time or carry bottles underarm for expediency.

Chemicals in Use

Do not open any chemical without wearing safety glasses and gloves provided by Empiribox. Chemicals must not be used for any purpose other than those set out in the lesson plans. Some chemicals (particularly liquid acids) require apportioning to pupils, so only use the glassware provided by Empiribox for this purpose. In addition, always use a funnel when transferring liquid chemicals to reagent bottles, which should be placed on a bench and not be held 'in the air' whilst transferring the liquid. Do not overfill the funnel as spills will result. Some solutions need to be made, such as copper sulphate and calcium hydroxide. You will receive these as solids and will only need to add water to them.

Once liquids have been transferred into the reagent bottles, the bottles must, by law, be labelled. You will find the labels in the kit. After use, any unused liquids can be poured into the normal waste stream unless directed otherwise.

Only use the chemicals prescribed in the Lesson Plans or Lesson PowerPoints. Do not use an alternative, even if it sounds the same, e.g. Potassium Iodide and Potassium Hydroxide are two completely different chemicals with their own hazards and uses.

Chemical Collection

On completion of the units, any remaining chemicals will be collected by Empiribox. You will need to request collection from Empiribox at support@empiribox.org .Please ensure that all lids are tightly screwed onto the containers and they are readily available. Of course, you are free to keep the chemicals if you wish, but they should only ever be used on school premises and in the way described in the Lesson Plans.

Disinfecting of equipment after use

Due to the coronavirus situation, Empiribox has provided each kit with a disinfectant spray that should be used by the teachers to disinfect the equipment before transferring the box to a different class. Teachers are asked to spray the inside of the box with the disinfectant spray and leave the box to the side for at least 10 minutes with the lid off so that the disinfectant spray can evaporate.

Chemicals Provided

The following is a list of all the chemicals provided (Please refer to the SDS sheets for amounts provided and appearance etc.). Please note that vinegar (Ethanoic Acid, Acetic Acid), salt (Sodium Chloride), and bicarbonate of soda (Sodium Hydrogen Carbonate, Sodium Bicarbonate) are used extensively in the Empiribox scheme. These are provided as food-grade and are thus not classed as chemicals.

Program of Study (PoS)	Chemical
Plants:	Calcium Hydroxide
Irreversible Changes:	Acetone (Propanone)
	Ammonium Carbonate
	Hydrogen Peroxide
	Methylated Spirits
	Calcium Chloride
	Citric Acid Copper Sulphate
	Hydrochloric Acid
	Sulphuric Acid

	Luminol
	Methylene Blue
	Manganese Dioxide
	Potassium Hydroxide
	Sodium Carbonate
	Potassium Permanganate
	Sodium Hydroxide
	Sodium Alginate
	Universal Indicator
	Methyl Orange
Properties and Changes of Materials:	Citric Acid
	Boric Acid
	Methylated Spirits
States of Matter:	Acetone (Propanone)
	Sodium Hydroxide
	Copper Sulphate Iron
	Sulphate Methylated
	Spirits Potassium
	Iodide Hydrogen
	Peroxide Hydrochloric
	Acid Calcium
	Carbonate
	Magnesium Carbonate
	Sodium Carbonate
Rocks:	Alum (Aluminum Potassium Sulphate)
	Sulphuric Acid
	Universal Indicator
Habitats:	Methylated Spirits
	Calcium Dicarbide
Animals including humans:	Iodine solution
	Starch solution

Safe Handling of Glassware

Both teachers and pupils will handle a variety of equipment made of glass as they go through the scheme. Glassware includes drinking glasses, beakers, conical flasks, and thermometers etc. Before setting out equipment for use, we recommend that every item is checked for chips, cracks, and breakages. Contact support@empiribox.org for replacements if necessary. Thermometers should NOT be used as stirring rods.

Safe Handling of 'Sharps'

Several experiments necessitate the use of mounted needles and scalpels (in the Biology Programs of Study). Mounted needles should always have the point covered when not in use (a small block of polystyrene is sufficient). Mounted needles can be handled by pupils only by direct supervision of an adult. Scalpels, however, must under no circumstances be handled by pupils. The scalpel should be sheathed or retracted when not in use.

Safe Handling of Heating Equipment

Some activities necessitate the use of naked flames, either in the form of tea lights, candles, or a military lighter.

Once any heating activity is completed any equipment heated will be hot and should be allowed to cool down before dismantling. Naturally, pupils should be kept away from the equipment while it cools, as well as from where it is stored.

Safe Handling of Electrical Equipment

Several pieces of equipment supplied by Empiribox that require mains supply are a smoke machine, desk lamps, fans etc. For the smoke machine, you will need to initially attach the handles to the device (as it becomes very hot) before use. Then fill the chamber with fogging fluid and connect to a wall socket. When the machine is ready to dispense the smoke, the handheld device will light up green. Stop dispensing smoke when the device lights up red. Turn off as soon as the activity is completed and allow the device to cool before dismantling. Do not dispense too much smoke as this may set off the fire alarm. The other electrical items are operated as normal.

You should not be carrying other objects when operating any piece of electrical equipment.

Several activities throughout the scheme use batteries, such as Electroplating in the Irreversible Changes Unit and Circuit Building in the Electricity Unit. The use of activities where battery operated devices are required are deemed safe, although you should note that some battery holders may overheat. If you become aware of this, cease its use immediately, remove the batteries and leads if safe to do so, and isolate from the other equipment. Please contact support@empiribox.org and we will collect the faulty units for testing.

Safe Handling of Plants

Empiribox provides different plant types in the Plants and Photosynthesis PoS and the Living Things and their Habitats PoS and some need to be handled carefully. For example, in the photosynthesis unit, cacti are provided, so guidance should be given that cacti are not to be picked up, just observed. Pupils should be wearing gloves when conducting activities that use plants, with extra care taken for those with skin conditions. As pupils will need to investigate pollen in the unit, care also needs to be taken with those with allergies and hay fever.

Pupils may be required to gather different leaves for the first lesson in the Plants program of study. This must take place under the supervision of an adult. Beware of certain insects that may be on leaves such as caterpillars and bees that can sting and irritate the skin.

Safe Handling of Food

Food is used in the following PoSs: Living Things and Evolution and Animals Including Humans. Please check for individuals with food allergies before the lessons begin. Those affected should be permitted to avoid these activities.

Safe Handling of Hot Water

The energy and chemical change units necessitate the use of warm water in several experiments. It is not necessary to use freshly boiled water. However, care needs to be taken when distributing warm water to pupils. Empiribox recommends boiled water that has been left to cool for 15 minutes is used, and that the teacher visits each desk to distribute the water as opposed to have children walking around the room with it.

Safe Handling of Living Things

Earthworms and Brown Crickets are provided to schools for the Living Things and their Habitats Program of Study. These must be ordered 3 days before the practical activity is due to take place (from support@empiribox.org). Once handled, individuals must wash their hands thoroughly.

Fire Procedure

For experiments where flames are used, a fire blanket is provided. Please ensure that this is on-hand in those lessons. Should the fire blanket be used, inform Empiribox at support@empiribox.org and complete an incident report, which can be found at www.empiribox.com in the Health and Safety section.

Emergency Procedure

Although the chemicals supplied to subscribers are safe for experimental use, most are deemed as irritants should they come into contact with the skin, eyes and respiratory tract. In the event of contact with the eyes, use plenty of fresh cool water to rinse the affected areas. Do not use the full pressure of the tap, the stream should only be a continuous trickle. Call for medical attention if symptoms persist after treatment is given.

Feedback

It is crucial that Empiribox receive your feedback on the scheme, particularly from a Health and Safety point of view. We would appreciate it if, on an annual basis, we get your feedback by completing the questionnaire found in the Appendices. Interim feedback to our Head of Health & Safety chrisfourie@empiribox.org is encouraged where you feel this would be helpful.

Contact Information

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support@empiribox.org
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Appendices

Chemical Safety Data Sheets (SDS)

These are simplified SDS sheets as opposed to the more technical data on industry SDS sheets. Empiribox can provide more technical SDS sheets on request.

Feedback Questionnaire

Name: Ethanoic Acid

Other names: Acetic acid, Vinegar

Formula: CH_3COOH

Quantity Provided: 1000mls

Storage: Store in a dry place.

Use: Ethanoic acid is reacted with Sodium bicarbonate to produce carbon dioxide gas.

Hazards: Ethanoic acid can irritate the eyes, skin, and respiratory tract.

Mitigation: Gloves must be worn as well as safety goggles/glasses.

Unit: Matter	**Lesson:** Lesson 8: Gaseous Chemistry
Unit: Materials	**Lesson:** Lesson 9: Sodium bicarbonate and Acid
Unit: Animals	**Lesson:** Lesson 2: Bones **Lesson:** Lesson 6: Teeth
Unit: Changes	**Lesson:** Lesson 9: Indicators
Unit: Mixtures & Potions KS1	**Lesson:** Lesson 8: Separating and Mixing **Lesson:** Lesson 12: Making new materials

Spill process: If spilled, the liquid can be mopped up with dry paper towels and disposed of in the wastepaper basket.

Disposal: Any unused ethanoic acid can be disposed of into the waste stream.

In the event of contact with:

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact: In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention if symptoms appear.

Hazard Symbols:

Name: Alum

Other names: Potassium Aluminium Sulphate

Formula: $KAl(SO_4)$

Quantity Provided: 400g of white powder

Storage: Store in a dry place.

Use: Various amounts added to water then heated slightly, then cooled at different rates to produce different crystal sizes.

Hazards: Not classed as hazardous but would irritate the eyes on contact.

Unit: Rocks **Lesson**: Lesson 3: Igneous Rocks

Spill process: Simply brush the powder directly into the waste bin. Ensure the area is completely clean as the powder can slightly irritate the eyes on contact.

Disposal: Can be disposed either directly into the waste bin or into the waste stream.

In the event of contact with:

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention if symptoms appear.

Hazard Symbols:

Name: Ammonium Carbonate

Other names: Bakers Soda

Formula: $(NH_4)_2CO_3$

Quantity Provided: 0.25g of white powder

Storage: Store in a dry place.

Use: Approx. 0.25g to 500mls of water (along with other substances)

Hazards: Acute toxicity if ingested, powerful ammonia smell.

Unit: Changes **Lesson**: Lesson 7: Reactions that produce light

Spill process: Simply brush the powder directly into the waste bin. Ensure the area is completely clean.

Disposal: Can be disposed either directly into the waste bin or into the waste stream.

In the event of contact with:

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Hazard Symbols:

Name: Calcium Carbonate

Other names: Chalk, Marble

Formula: $CaCO_3$

Quantity Provided: 40g of white powder and 500g of tooth sized chips

Storage: Store in a dry place.

Use: Different small amounts are added to acid.

Hazards: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Unit: Matter **Lesson**: Lesson 8: Producing Gases

Unit: Changes **Lesson**: Lesson 4: Rates of chemical reactions 2

Lesson: Lesson 8: Mass changes and chemical reactions

Spill process: Simply brush the powder directly into the waste bin. Ensure the area is completely clean as the powder can slightly irritate the skin.

Disposal: Can be disposed either directly into the waste bin or into the waste stream.

In the event of contact with:

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention if symptoms appear.

Hazard Symbols: N/A

Name: Iron Sulphate

Other names: Iron(II) sulfate heptahydrate

Formula: $FeSO_4$

Quantity Provided: 16g of pale blue-green crystals

Storage: Store in a dry place.

Use: Approx. 4g of iron sulphate is added to copper sulphate solution.

Hazards: Harmful if swallowed. Causes eye and skin irritation. May cause respiratory tract irritation.

Unit: Matter **Lesson**: Lesson 2: Solids, liquids, and gases

Spill process: Simply brush the powder directly into the waste bin. Ensure the area is completely clean as the powder can slightly irritate the skin.

Disposal: Can be disposed either directly into the waste bin or into the waste stream.

In the event of contact with:

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention if symptoms appear.

Hazard Symbols:

Name: Luminol

Other names: Luminol; 5-Amino-2,3-dihydro-1,4-phthalazinedione; 3-Aminophthalic acid hydrazide; 3-Aminophthalhydrazide.

Formula: $KAl(SO_4)$

Quantity Provided: 0.5g of light brown powder

Storage: Store in a dry place.

Use: 0.1g is added to 500ml of water (along with other substances).

Hazards: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Unit: Changes **Lesson**: Lesson 7: Reactions that produce light

Spill process: Simply brush the powder directly into the waste bin. Ensure the area is completely clean as the powder can slightly irritate the skin.

Disposal: Can be disposed either directly into the waste bin or into the waste stream.

In the event of contact with:

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention if symptoms appear.

Hazard Symbols: N/A

Name: Magnesium Carbonate

Other names: No other names

Formula: $MgCO_3$

Quantity Provided: 50g of white powder

Storage: Store in a dry place.

Use: Various small amounts.

Hazards: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Unit: Matter **Lesson**: Lesson 8: Gaseous Chemistry

Spill process: Simply brush the powder directly into the waste bin. Ensure the area is completely clean as the powder can slightly irritate the skin.

Disposal: Can be disposed either directly into the waste bin or into the waste stream.

In the event of contact with:

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention if symptoms appear.

Hazard Symbols: N/A

Name: Manganese Dioxide

Other names: Manganese (IV) Oxide

Formula: MnO_2

Quantity Provided: 20g of black powder

Storage: Store in a dry place.

Use: Approx. 5g of manganese dioxide is added to 50mls of hydrogen peroxide.

Hazards: Toxic in the case of inhalation.

Unit: Changes **Lesson**: Lesson 4: Rates of Chemical Reaction 2

Spill process: Simply brush the powder directly into the waste bin. Ensure the area is completely clean as the powder can slightly irritate the skin.

Disposal: Can be disposed either directly into the waste bin or into the waste stream.

In the event of contact with:

Skin Contact: Wash with soap and water. Get medical attention if irritation develops. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Hazard Symbols:

Name: Sodium Carbonate

Other names:

Formula: Na_2CO_3

Quantity Provided: 50g of white powder

Storage: Store in a dry place.

Use: Approx. 5g of sodium bicarbonate is added to about 150mls of vinegar to produce carbon dioxide gas

Hazards: Irritant on contact with the eyes.

Unit: Changes **Lesson**: Lesson 7: Reactions that produce Light

Unit: Matter **Lesson**: Lesson 8: Gaseous chemistry

Spill process: Simply brush the powder directly into the waste bin. Ensure the area is completely clean as the powder can slightly irritate the skin.

Disposal: Can be disposed either directly into the waste bin or into the waste stream.

In the event of contact with:

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Hazard Symbols:

Name: Sodium Hydrogen Carbonate

Other names: Sodium Bicarbonate, Bicarbonate of Soda

Formula: $NaHCO_3$

Quantity Provided: 500g of white powder

Storage: Store in a dry place.

Use: Sodium bicarbonate is added to vinegar to produce carbon dioxide gas.

Hazards: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Unit: Changes	**Lesson**: Lesson 2: Temperature and chemical reactions
	Lesson: Lesson 7: Reactions that produce light
	Lesson: Lesson 9: Indicators
Unit: Plants	**Lesson**: Lesson 4: Photosynthesis
Unit: Materials	**Lesson**: Lesson 5: Solubility
	Lesson: Lesson 9: Sodium bicarbonate and Acid
Unit: Matter	**Lesson**: Lesson 8: Gaseous chemistry
Unit: Mixtures & Potions KS1	**Lesson**: Lesson 8: Separating and mixing

Spill process: Simply brush the powder directly into the waste bin. Ensure the area is completely clean as the powder can slightly irritate the skin.

Disposal: Can be disposed either directly into the waste bin or into the waste stream.

In the event of contact with:

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention if symptoms appear.

Hazard Symbols:

Name: Universal Indicator

Other names: Ethyl alcohol

Formula: C_2H_6O

Quantity Provided: 320mls of dark liquid

Storage: Store in a dry place.

Use: A few drops is added to liquids

Hazards: Causes serious eye irritation and is flammable.

Unit: Changes	**Lesson**: Lesson 6: Chemistry with electricity
	Lesson: Lesson 9: Indicators
Unit: Rocks	**Lesson**: Lesson 7: Chemical weathering and erosion

Spill process: Mop up with dry tissue then wash with water and dry. Do not use cleaning products.

Disposal: Can be disposed either directly into the waste bin or into the waste stream.

In the event of contact with:

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention if symptoms appear.

Hazard Symbols:

Name: Copper Sulphate (0.01M concentration)

Other names: Copper Sulfate, Copper (II) Sulphate

Formula: $CuSO_4 . 5H_2O$

Quantity Provided: 20g

Storage: Keep in a dry place. Children should only have access under adult supervision

Use: A small portion of iron wool is added to 20mls of copper sulphate solution, and the temperature of the resultant reaction is taken. 80mls is used in electroplating and various small amounts in some chemical reactions.

Hazards: Harmful if swallowed. Irritating to eyes and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Unit: Matter

Unit: Changes

Lesson: Lesson 2: Solids, liquids, and gases

Lesson: Lesson 2: Temperature and chemical reactions

Lesson: Lesson 6: Chemistry with electricity

Lesson: Lesson 7: Reactions that produce light

Spill process: Use a dry tissue to wipe the area until completely dry. The tissue can be disposed of in the wastepaper bin.

Disposal: Unused or 'reacted' copper sulphate solute can be poured into the waste stream.

In the event of:

INHALATION: Remove victim immediately from source of exposure. Provide rest, warmth, and fresh air. Get medical attention if any discomfort continues.

INGESTION: Immediately rinse mouth and drink plenty of water. Get medical attention immediately!

SKIN CONTACT: Immediately remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if irritation persists after washing.

EYE CONTACT: Promptly wash eyes with plenty of water or eye wash solution while lifting the eyelids. If possible, remove any contact lenses and continue to wash. Get medical attention if any discomfort continues.

Hazard Symbols:

Name: Methylated Spirit

Other names: Alcohol, Ethanol

Formula: CH_3CH_2OH

Quantity Provided: 500mls

Storage: Store in a cool dry place. Should not be placed in direct sunlight or near a source of heat or naked flames.

Use: Small quantities are used to illustrate burning and used to separate fruit DNA. Small quantity used to demonstrate evaporation and in a reversible chemical reaction.

Hazards: Alcohol is extremely flammable and should be kept away from naked flames except in recommended use.

Unit: Matter	**Lesson**: Lesson 3: Changes of state
	Lesson: Lesson 5: Evaporation and diffusion
Unit: Changes	**Lesson:** Lesson 3: Rates of chemical reactions 1
	Lesson: Lesson 8: Reversible chemical reactions
Unit: Materials	**Lesson**: Lesson 8: Fire
Unit: Habitats	**Lesson**: Lesson 2: Classification of living things

Spill process: Dry area with a dry tissue until completely dry. Place the tissue into a sealable bag. This can then be disposed of in the wastepaper basket.

Disposal: Unused alcohol can be poured back into the bottle.

In the event of contact with:

Inhalation: Remove victim immediately from source of exposure. Provide rest, warmth, and fresh air. Get medical attention if any discomfort continues.

Ingestion: Do not induce vomiting. Rinse mouth thoroughly with water Get medical attention.

Skin contact: Remove contaminated clothing and wash before re - use. Flush skin thoroughly with water. If irritation or discomfort occurs obtain medical attention

Eye contact: Promptly wash eyes with plenty of water or eye wash solution while lifting the eyelids. If possible, remove any contact lenses and continue to wash. Get medical attention if any discomfort continues.

Hazard Symbols:

Name: Hydrochloric Acid (0.1M, 0.5M and 1.0M concentrations)

Other names: Hydrogen Chloride solution

Formula: HCl

Quantity Provided: 1 litres and 50mls

Storage: Keep away from children except under adult supervision.

Use: 50mls of HCl is reacted with small pieces of calcium carbonate chips or chalk and the reactions observed. 50mls of HCl is reacted with iron filings to produce hydrogen gas. 2.5mls is used in the rainbow tube.

Hazards: Corrosive and an irritant to the skin and eyes.

Unit: Changes	**Lesson**: Lesson 4: Rates of Chemical reactions 2
	Lesson: Lesson 5: Mass changes and chemical reactions
	Lesson: Lesson 9: Indicators
Unit: Matter	**Lesson:** Lesson 8: Gaseous chemistry

Spill process: The area must be dried completely with dry tissue and disposed in the wastepaper basket.

Disposal: Can be poured into the waste stream.

In the event of:

Inhalation: Remove victim immediately from source of exposure. Provide rest, warmth, and fresh air. Get medical attention if any discomfort continues.

Ingestion: Do not induce vomiting. Rinse mouth thoroughly with water in case of ingestion of large amounts or if any discomfort continues obtain medical attention.

Skin contact: As a general precaution remove contaminated clothing and wash the skin with plenty of water. If irritation or discomfort occurs obtain medical attention

Eye contact: Promptly wash eyes with plenty of water or eye wash solution while lifting the eyelids. If possible, remove any contact lenses and continue to wash. Get medical attention if any discomfort continues.

Hazard Symbols:

Name: Hydrogen Peroxide

Other names: none

Formula: H_2O_2

Quantity Provided: 100mls & 25mls

Storage: Should be stored in a refrigerator. Children should not have access at any time. Ensure the lid is screwed on tightly after use.

Use: 100mls of hydrogen peroxide is reacted with potassium iodide and detergent to produce a foam. 100mls of hydrogen peroxide is reacted with 2g of manganese dioxide to produce steam. 1ml is used to produce a chemiluminescent reaction. 25mls is used with potassium iodide to produce oxygen.

Hazards: Harmful if swallowed. Can cause severe irritation to the skin and damage the eyes.

Unit: Matter	**Lesson**: Lesson 3: Changes of state
	Lesson: Lesson 8: Gaseous chemistry
Unit: Changes	**Lesson**: Lesson 4: Rates of chemical reactions 2
	Lesson: Lesson 7: Reactions that produce light

Spill process: Gloves should always be used. The area must be dried with dry tissue. If possible, put the tissue in a sealable bag and then can be disposed of in the wastepaper basket.

Disposal: Can be poured into the normal waste stream

In the event of contact with:

Inhalation: Remove victim immediately from source of exposure. Provide rest, warmth, and fresh air. In case of severe exposure or if any discomfort continues get medical attention.

Ingestion: Do not induce vomiting. Rinse mouth thoroughly with plenty of water. Get medical attention immediately!

Skin contact: Remove footwear if contaminated. Immediately remove contaminated clothing and wash before re-use. Rinse the skin immediately with lots of water. After contact with small amounts get medical attention if any discomfort continues. For large amounts, obtain medical attention.

Eye contact: Promptly wash eyes with plenty of water or eye wash solution while lifting the eyelids. If possible, remove any contact lenses and continue to wash. Get medical attention immediately.

Hazard Symbols:

Name: Potassium Iodide

Other names: none

Formula: KI

Quantity Provided: 100g

Storage: Store in the black tray provided by Empiribox. Should be dry.

Use: Approx. 5g of potassium iodide is added to 100mls of hydrogen peroxide and detergent to produce a foam. 1g of potassium iodide is added to 10mls of hydrogen peroxide to produce oxygen.

Hazards: Can irritate the skin and eyes and slight hazard in the case of ingestion or inhalation.

Unit: Matter **Lesson**: Lesson 3: Changes of state

Lesson: Lesson 8: Gaseous chemistry

Spill process: Area can be cleared with wet tissue which can then be thrown into the wastepaper basket.

Disposal: Can be thrown into the wastepaper basket.

In the event of:

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt, or waistband.

Hazard Symbols:

Name: Potassium Permanganate

Other names: none

Formula: $KMnO_4$

Quantity Provided: 200mls

Storage: Store away from direct sunlight in the black tray provided by Empiribox. Children should not have access without adult supervision.

Use: 50mls of potassium permanganate is reacted with pieces of rhubarb to produce a 'dirty green' solution

Hazards: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Unit: Changes **Lesson**: Lesson3: Rate of chemical reactions 1

Spill process: Wipe the area with a dry tissue until completely dry. There should be no 'purple' remaining.

Disposal: The reacted solution can be poured down the drain. Unreacted permanganate should not be poured down the drain.

In the event of contact with:

INHALATION: Remove victim immediately from source of exposure. Provide rest, warmth, and fresh air. In case of severe exposure or if any discomfort continues get medical attention.

INGESTION: Do not induce vomiting. Immediately rinse mouth and drink plenty of water. Get medical attention.

SKIN CONTACT: Remove contaminated clothing and wash before re - use. Wash the skin immediately with soap and water. In serious cases or if discomfort continues obtain medical attention.

EYE CONTACT: Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Hazard Symbols:

Name: Acetone

Other names: Propanone

Formula: $(CH_3)_2CO$

Quantity Provided: 100mls

Storage: Store away from heat, direct sunlight, or naked flame. Children should have access at no time.

Use: Approx. 100mls of acetone is placed in a drinking mug and then expanded polystyrene is introduced.

Also, a 100mls is placed in a measuring cylinder to look at the rate of evaporation.

Hazards: Extremely flammable.

Unit: Matter **Lesson**: Lesson 5: Evaporation and diffusion

Unit: Changes **Lesson:** Lesson 5: Mass changes and chemical reactions

Spill process: The area should be wiped with a dry tissue until the area is dry. Place the tissue in a sealable bag and dispose into the wastepaper basket.

Disposal: Can be poured into the waste stream

In the event of:

Inhalation: Remove victim immediately from source of exposure. Provide rest, warmth, and fresh air. In case of severe exposure or if any discomfort continues get medical attention.

Ingestion: Rinse mouth thoroughly with water Do not induce vomiting. Get medical attention.

Skin contact: Immediately remove contaminated clothing. Wash the skin immediately with soap and water. If irritation or discomfort occurs after washing obtain medical attention.

Eye contact: Promptly wash eyes with plenty of water or eye wash solution while lifting the eyelids.
If possible, remove any contact lenses and continue to wash. Get medical attention.

Hazard Symbols:

Name: Sodium Hydroxide (0.1M concentration)

Other names: Caustic soda

Formula: NaOH

Quantity Provided: 1 litre

Storage: Store in the tray provided by Empiribox. Children should not have access except under adult supervision.

Use: Approx. 5mls of sodium hydroxide is added to water and universal indicator in the rainbow tube. Approx. 100mls of sodium hydroxide is mixed with copper sulphate and iron sulphate to produce precipitates.

Hazards: Is corrosive and can cause burns to the skin.

Unit: Changes **Lesson**: Lesson 9: Indicators

Unit: Matter **Lesson:** Lesson 2 Solids, liquids, and gases

Spill process: Wipe the area with a dry tissue and then dispose into the wastepaper basket.

Disposal: Can be poured into the normal waste stream.

In the event of:

Inhalation: Remove victim immediately from source of exposure. Provide rest, warmth, and fresh air. In case of severe exposure or if casualty feels unwell, obtain medical attention.

Ingestion: Do not induce vomiting. Rinse mouth thoroughly with water Get medical attention immediately!

Skin contact: Remove contaminated clothing and wash before re - use. Wash the skin with copious amounts of water. If clothing is difficult to remove or stuck to the skin, then leave in place and flush affected area with water. Get medical attention immediately!

Eye contact: May cause permanent damage if eye is not immediately irrigated. Promptly wash eyes with plenty of water or eye wash solution while lifting the eyelids. If possible, remove any contact lenses and continue to wash. Get medical attention immediately. Continue to rinse.

Hazard Symbols:

Name: Sulphuric Acid (0.1M concentration)

Other names: none

Formula: H_2SO_4

Quantity Provided: 1.5 litres

Storage: Store in the tray provided by Empiribox. Children should not have access except under adult supervision.

Use: Sulphuric acid is mixed with water to illustrate acid rain. Approx., 175mls of sulphuric acid is added to chalk and the reaction is observed. Approx. 25mls of sulphuric acid is mixed magnesium ribbon and the reaction is observed.

Hazards: Corrosive and can cause skin burns.

Unit: Rocks **Lesson**: Lesson 7: Chemical weathering and erosion

Unit: Changes **Lesson**: Lesson 2: Temperature and chemical reactions

Spill process: Wipe the area until completely dry with a dry tissue which can then be disposed in the wastepaper basket

Disposal: Can be poured into the normal waste stream

In the event of:

Inhalation: Remove victim immediately from source of exposure. Provide rest, warmth, and fresh air. Get medical attention if any discomfort continues.

Ingestion: Rinse mouth thoroughly with water DO NOT induce vomiting. Get medical attention immediately.

Skin contact: Immediately remove contaminated clothing and wash before re-use. Flush skin thoroughly with water. Get medical attention if any discomfort continues.

Eye contact: Promptly wash eyes with plenty of water or eye wash solution while lifting the eyelids. If possible, remove any contact lenses and continue to wash. Get medical attention immediately.

Hazard Symbols:

Name: Calcium Hydroxide

Other names: Slaked lime

Formula: $Ca(OH)_2$

Quantity Provided: 25g

Storage: Keep in a dry place. Children should not have access without adult supervision.

Use: 5g is added to 250mls of water and left for 24 hours. The resultant solution is then filtered and used to test for carbon dioxide.

Hazards: Corrosive in the event of eye contact and a possible irritant of the skin,

Unit: Plants **Lesson**: Lesson 4: Photosynthesis

Spill process: Dry wipe the affected area and then wash with clean water

Disposal: Can be poured down the normal waste stream

In the event of:

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention if symptoms appear

Hazard Symbols:

Name: Boric Acid

Other names: Hydrogen Borate

Formula: H_3BO_3

Quantity Provided: 8g

Storage: Keep in the tray provided by Empiribox and in a dry place

Use: Approx. 2g of boric acid is mixed with methylated spirit, which is then ignited to produce a green flame

Hazards: Can be toxic if swallowed

Unit: Materials **Lesson**: Lesson 8: Fire

Spill process: Can be removed with a wet tissue which can then be disposed of in the wastepaper basket.

Disposal: Can be disposed down the normal waste stream.

In the event of:

Eyes Contact: with the solid or dust may be irritating to the eyes. Rinse with plenty of cold water and if symptoms persist, seek medical attention.

Skin contact: The solid and solutions may be irritating to the skin. Repeated exposure may cause dermatitis. Rinse with plenty of cold water.

Ingestion: Toxic if swallowed and can cause vomiting and diarrhea. Drink plenty of water and if symptoms persist, seek medical attention.

Inhalation: Dust may produce irritation of the eyes, nose, throat, and respiratory tract. Move to fresh air.

Hazard Symbols:

Name: Calcium Carbide

Other names: Calcium Dicarbide

Formula: CaC_2

Quantity Provided: 4g

Storage: The container should be stored in an area free of humidity and away from moisture of any kind

Use: Approx. 1g of calcium carbide is added to approx. 10mls of water to produce acetylene which is then ignited

Hazards: In contact with water releases flammable gases (acetylene) which may ignite spontaneously. Causes severe skin burns and eye damage.

Unit: Habitats **Lesson**: Lesson 6: Plants lifecycle and reproduction

Spill process: Clear the area with a dry tissue until no calcium carbide remains. Do NOT clean up with a damp cloth.

Disposal: Once the reaction is complete (there will be no more bubbles produced), the liquid can be poured into the waste stream

In the event of contact with:

Eyes: Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION URGENTLY.

Skin: Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re- use. OBTAIN MEDICAL ATTENTION.

Inhalation: Remove from exposure. Keep warm and at rest. If conscious place in a sitting position. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. OBTAIN MEDICAL ATTENTION.

Ingestion: If conscious give plenty of water to drink. Do not induce vomiting. OBTAIN MEDICAL ATTENTION URGENTLY.

Hazard Symbols:

Name: Calcium Chloride

Other names: none

Formula: $CaCl_2$

Quantity Provided: 100g

Storage: Keep in tray provided by Empiribox. Keep in a cool, dry place.

Use: Approx. 5g of calcium chloride is added to 50mls of water. Sodium alginate mixture is "injected" into the calcium chloride to produce worms.

Hazards: Can cause serious eye irritation.

Unit: Changes **Lesson**: Lesson 8: Reversible chemical reactions

Spill process: Can be removed with a wet tissue and placed in the wastepaper basket

Disposal: Can be poured down the normal waste stream

In the event of:

Eye contact: Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re- use. If discomfort persists OBTAIN MEDICAL ATTENTION.

Inhalation: Remove from exposure.

Ingestion: Wash out the patients mouth thoroughly with water. Do not induce vomiting. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.

Hazard Symbols:

Name: Methylene Blue

Other names: Methylthioninium Chloride

Formula: $C_{16}H_{18}N_3SCl$

Quantity Provided: 5g

Storage: Keep dry and in the tray provided by Empiribox. Children do not have access at any time

Use: Methylene blue is added to alkalinated glucose solution.

Hazards: Harmful if swallowed.

Unit: Changes **Lesson**: Lesson 8: Reversible chemical reactions

Spill process: Brush into sealable bag and wash the area with plenty of water until no blue stain remains

Disposal: put in a sealable bag. Empiribox will collect any remaining Methylene Blue

In the event of contact with:

Eyes: Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. If discomfort persists OBTAIN MEDICAL ATTENTION.

Skin: Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re- use.

Inhalation: Remove from exposure.

Ingestion: Wash out the patients mouth thoroughly with water.

Hazard Symbols:

Name: Potassium Hydroxide

Other names: Potash

Formula: KOH

Quantity Provided: 32g

Storage: Keep dry and away from children

Use: Approx. 8g of potassium hydroxide is added to glucose solution

Hazards: Is an irritant, especially to the eyes

Unit: Changes **Lesson**: Lesson 8: Reversible chemical reactions

Spill process: Spilled pellets can simply be swept into the wastepaper basket.

Disposal: Any solution can be poured into the normal waste stream.

In the event of contact with:

Eyes: Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. If discomfort persists OBTAIN MEDICAL ATTENTION.

Skin: Wash off skin thoroughly with water.

Inhalation: Remove from exposure.

Ingestion: Wash out the patients mouth thoroughly with water.

Hazard Symbols:

Name: Sodium Chloride

Other names: Table salt

Formula: NaCl

Quantity Provided: 750g

Storage: Keep in tray provided by Empiribox. Keep in a cool, dry place

Use: Various use of salt in experiments ranging from mixing with ice to lower the melting point to mixing with water to look at evaporation.

Hazards: May cause eye, skin, and respiratory tract irritation. Hygroscopic (absorbs moisture from the air).

Unit: Matter	**Lesson**: Lesson 3: Changes of state **Lesson**: Lesson 4: Heating and cooling **Lesson**: Lesson 5: Evaporation and diffusion **Lesson**: Lesson 7: Properties of chemicals **Lesson**: Lesson 9: Global chemistry (The water cycle)
Unit: Habitats	**Lesson**: Lesson 2: Classification of living things
Unit: Sound	**Lesson**: Lesson 3: How does sound travel
Unit: Materials	**Lesson**: Lesson 4: Hardness and Transparency **Lesson**: Lesson 5: Solubility **Lesson**: Lesson 6: Dissolving
Unit: Changes	**Lesson**: Lesson 6: Chemistry with electricity **Lesson**: Lesson 8: Reversible chemical reactions
Unit: Mixtures & Potions KS1	**Lesson**: Lesson 7: Separating and mixing

Spill process: Can be removed with a wet tissue and placed in the wastepaper basket.

Disposal: Can be poured down the normal waste stream.

In the event of:
Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.

Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion: Do not induce vomiting. Get medical aid if irritation or symptoms occur.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Hazard Symbols:

Name: Citric Acid

Other names: Citric acid monohydrate

Formula: $C_6H_8O_7 \cdot H_2O$

Quantity Provided: 500g

Storage: Keep in tray provided by Empiribox. Keep in a cool, dry place

Use: Citric acid is mixed with sodium bicarbonate and water to produce an endothermic reaction.

Hazards: Can cause serious eye irritation.

Unit: Changes **Lesson**: Lesson 2: Temperature and chemical reactions

Unit: Materials **Lesson**: Lesson 9: Sodium bicarbonate and acid

Spill process: Can be removed with a wet tissue and placed in the wastepaper basket.

Disposal: Can be poured down the normal waste stream.

In the event of:

Eye contact: Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re- use. If discomfort persists OBTAIN MEDICAL ATTENTION.

Inhalation: Remove from exposure.

Ingestion: Wash out the patients mouth thoroughly with water. Do not induce vomiting. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.

Hazard Symbols:

Name: Sodium Alginate

Other names: Alginic acid sodium salt, Algin

Formula: $(C_6H_8O_6)n$

Quantity Provided: 40g

Storage: Keep in tray provided by Empiribox. Keep in a cool, dry place

Use: Approx. 8g of sodium alginate is mixed with water.

Hazards: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Unit: Changes **Lesson**: Lesson 8: Reversible chemical reactions

Spill process: Can be removed with a wet tissue and placed in the wastepaper basket.

Disposal: Can be poured down the normal waste stream.

In the event of:

Eye contact: Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re- use. If discomfort persists OBTAIN MEDICAL ATTENTION.

Inhalation: Remove from exposure.

Ingestion: Wash out the patients mouth thoroughly with water. Do not induce vomiting. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.

Hazard Symbols: N/A

Name: Methyl Orange

Other names: none

Formula: $C_{14}H_{14}N_3NaO_3S$

Quantity Provided: 20mls

Storage: Keep in tray provided by Empiribox. Keep in a cool, dry place

Use: Approx. 85mls of methyl orange is added to water as an indicator.

Hazards: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

This substance is not classified as dangerous according to Directive 67/548/EEC.

Unit: Changes **Lesson**: Lesson6: Chemistry with electricity

Spill process: Can be removed with a wet tissue and placed in the wastepaper basket.

Disposal: Can be poured down the normal waste stream.

In the event of:

Eye contact: Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re- use. If discomfort persists OBTAIN MEDICAL ATTENTION.

Inhalation: Remove from exposure.

Ingestion: Wash out the patients mouth thoroughly with water. Do not induce vomiting. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.

Hazard Symbols: N/A

Name: Iodine Solution

Other names: none

Formula: I_3K

Quantity Provided: 64mls

Storage: Keep in tray provided by Empiribox. Keep in a cool, dry place

Use: Approx. 1ml of iodine solution is added to 5ml of starch solution to see a colour change.

Hazards: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

This substance is not classified as dangerous according to Directive 67/548/EEC.

Unit: Animals **Lesson**: Lesson7: You are what you eat

Spill process: Can be removed with a wet tissue and placed in the wastepaper basket.

Disposal: Can be poured down the normal waste stream.

In the event of:

Eye contact: Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re- use. If discomfort persists OBTAIN MEDICAL ATTENTION.

Inhalation: Remove from exposure.

Ingestion: Wash out the patients mouth thoroughly with water. Do not induce vomiting. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.

Hazard Symbols: N/A

Name: Starch Solution

Other names: none

Formula: $(C_6H_{10}O_5)_n$

Quantity Provided: 320mls

Storage: Keep in tray provided by Empiribox. Keep in a cool, dry place

Use: Approx. 1ml of iodine solution is added to 5ml of starch solution to see a colour change.

Hazards: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

This substance is not classified as dangerous according to Directive 67/548/EEC.

Unit: Animals **Lesson**: Lesson7: You are what you eat

Spill process: Can be removed with a wet tissue and placed in the wastepaper basket.

Disposal: Can be poured down the normal waste stream.

In the event of:

Eye contact: Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re- use. If discomfort persists OBTAIN MEDICAL ATTENTION.

Inhalation: Remove from exposure.

Ingestion: Wash out the patients mouth thoroughly with water. Do not induce vomiting. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.

Hazard Symbols: N/A

Feedback Questionnaire

Empiribox are committed to continuous improvement of the scheme, to benefit every school, teacher and pupil. You are an important part of this process. We would appreciate it if you could consult your teachers and then complete the following short questionnaire. Please then email it to chrisfourie@empiribox.org Any answers given are in the strictest confidence.

1. Did Empiribox training prepare your teachers sufficiently for the Health and Safety challenges presented by the scheme?

   YES NO

   If NO, could you please elaborate below.

2. Are there any demonstrations you felt were too risky to perform and so, did not?

   YES NO

   If YES, could you please identify which demonstration and why you felt it was an unsuitable activity

3. Are there any investigations you felt were too risky for the children to conduct and so, didn't do? them in class?

   YES NO

   If YES, could you please identify which demonstration and why you felt it was unsuitable activity

4. Do you have any suggestions how we can improve the Health and Safety aspect of the scheme?