

SAFETY WITH HYDROCARBONS

Syllabus reference 8.5.3

INTRODUCTION

For all chemicals a Material Safety Data Sheet (MSDS) must be produced. The MSDS summarises information on the health and safety hazards of the chemical product, and how to safely handle, store and use the product in the workplace.

Hydrocarbons, particularly those with high volatility, are extremely flammable. In addition, many hydrocarbons are toxic and so care needs to be taken when handling them.

It is important that you can interpret information from this type of sheet. You should always consult the appropriate MSDS when handling chemicals. The following is a summary of an MSDS.

TASK

Read the attached summary MSDS and extract the following information. *Do not* write out the information word for word. You should briefly summarise the essential points.

Headings

- Name of product

- Use

- Health effects

○ First aid

○ Flammability

○ Storage

○ Disposal

SUMMARY FORM

Material Safety Data Sheet—KEROSENE

IDENTIFICATION

Product Name: KEROSENE

Product Use: Cleaning solvent, domestic heating or lighting fuel

PHYSICAL DATA

Appearance: Clear blue liquid, immiscible with water, miscible with other petroleum products, characteristic odour

Boiling Point: approx. 160–250°C

Vapour Pressure: <0.13 kilopascals at 30°C

Density: 0.80 g/mL, 15°C

Flash Point: approx. 40°C

Other Properties

Volatile Component: 98% distils below 280°C

HEALTH HAZARD INFORMATION

Health Effects

Acute—Swallowed Moderately toxic.

May cause gastric irritation.

Ingestion can cause nausea and vomiting.

Ingestion can result in abdominal pain.

Ingestion can result in convulsions.

May lead to CNS depression.

A highly hazardous condition can occur if a patient vomits the swallowed product and foam is aspirated into the lungs. This may cause mild to severe pulmonary injury and possibly death.

Acute—Eye

A moderate eye irritant.

High concentrations of vapours will cause irritation.

Acute—Skin

Practically non-harmful.

Repeated or prolonged skin contact may lead to irritation.

Repeated or prolonged skin contact may lead to dermatitis effects.

Will have a degreasing action on the skin.

Acute—Inhaled

Inhalation of mists or aerosols may produce respiratory irritation.

Inhalation of vapour can result in headaches, dizziness and possible nausea.

May cause bronchitis, pneumonia and pulmonary oedema.

Chronic—Repeated or prolonged skin contact can cause chronic dermatitis.

FIRST AID

Swallowed—Rinse mouth thoroughly with water immediately.

Give water or milk to drink. DO NOT induce vomiting.

Seek immediate medical assistance.

Poison Information Centres in each state capital city can provide additional assistance for scheduled poisons.

Eye—Immediately irrigate with copious quantity of water for at least 15 minutes.

Eyelids to be held open.

Seek medical advice if effects persist.

Skin—Wash with plenty of soap and water.

If swelling, redness, blistering or irritation occurs seek medical advice.

Remove contaminated clothing and wash before re-use.

Inhaled—Remove victim from exposure: avoid becoming a casualty.

If breathing laboured and patient cyanotic (blue), ensure airways are clear and have qualified person give oxygen through a face mask.

If breathing has stopped apply artificial respiration at once.

In the event of cardiac arrest, apply external cardiac massage.

Seek medical attention.

PERSONAL PROTECTION

Protective equipment

The following personal protective equipment should be worn.

- Overalls or similar protective apparel.
- Safety glasses, goggles or faceshield as appropriate.
- Rubber boots.
- PVC, neoprene or nitrile rubber gloves.

Wash contaminated clothing and protective equipment before storing or re-using.

Avoid skin and eye contact.

Do not smoke.

Remove any naked lights or strong heat sources.

FLAMMABILITY

Fire hazards

Flammable liquid.

May form explosive mixtures with air.

Keep away from heat, sparks or naked flames.

Avoid all ignition sources.

Flameproof equipment necessary.

Earth nearby equipment and transfer equipment.

STORAGE AND TRANSPORT

Storage precautions

Store in well ventilated area.

Store away from sources of heat or ignition.

Store away from oxidising agents.
Store away from foodstuffs.
Keep containers securely sealed and protected against physical damage.
Keep containers closed when not actually dispensing this fluid.

SPILLS AND DISPOSAL

Shut off all possible sources of ignition.
Clear area of all unprotected personnel.
For large spills notify Emergency Services.
Contain using sand and earth—prevent run-off into drains and waterways.
Use absorbent (soil or sand, sawdust, inert material, vermiculite).
Use spark free shovel.
Collect and seal in properly labelled drums for disposal.
Wash area down with detergent and excess water.
Wear full protective clothing (see Personal Protection/Ventilation section).
Self-contained breathing apparatus may be needed for prolonged periods of exposure.
Refer to appropriate State Waste Disposal Authority.

FIRE/EXPLOSION HAZARD

Evacuate immediate area.
Explosive air–vapour mixture may form.
Keep containers cool with water spray.
On burning will emit toxic fumes: carbon monoxide, carbon dioxide, oxides of sulfur.
Firefighters to wear self-contained breathing apparatus if risk of exposure to vapour or products of combustion.
Extinguish fire with the following:
use CO₂, dry chemical or foam.