

# Kerosene

# Factsheet

## Introduction

Energy is central to social and economic well-being, yet 1 in 7 people live without access to electricity (that's roughly 1.1 billion in total around the world).

Developing countries, particularly in sub-saharan Africa, have the highest amount of people living off the electrical grid. This means that families have to rely on other ways to light their homes and cook their food, and **the alternatives tend to be damaging to themselves and to the environment.**

Unfortunately, the common source of lighting for people living without electricity is **burning toxic fuels** such as kerosene, propane, candles and biofuels. This factsheet aims to inform people about the most widely used lighting fuel, kerosene; its properties, uses, and the **health, economic and environmental detriments.**

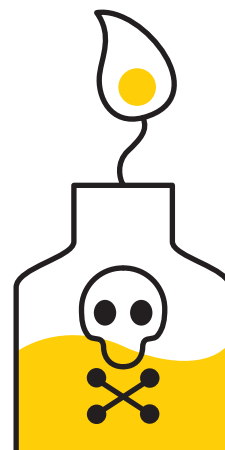
---



**What is Kerosene?**

Kerosene is a liquid fuel, similar in composition to diesel, and made from the distillation of crude oil. There are no natural sources of kerosene in the environment. In some parts of the world including the UK, Chile, and Southeast Asia, kerosene is also known as 'paraffin oil'.

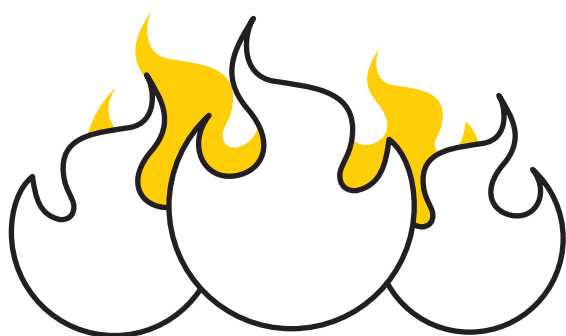
LITTLE SUN FOUNDATION



**How is Kerosene used?**

Kerosene is widely used to power jet engines of aircrafts and some rockets. In parts of Asia kerosene fuels mopeds and motorbikes. When people do not have access to electricity they **commonly use kerosene for lighting fuel**. The estimated world total kerosene consumption is equivalent to about 1.2 million barrels per day.

LITTLE SUN FOUNDATION

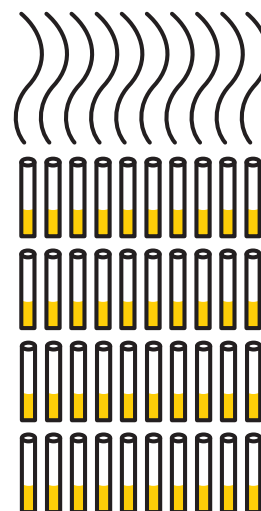


**Why is Kerosene harmful?**

Kerosene is highly flammable so it **causes accidental burns and house fires**. In South Africa alone, over 200,000 people are injured or lose property each year due to kerosene related fires. Three multi-year reviews of admissions to Nigerian hospitals attributed ~30% of all burn cases to kerosene.

LITTLE SUN FOUNDATION

**1 day =**



**Why is Kerosene harmful?**

Kerosene lamps release toxic fumes which cause eye and skin irritation and also respiratory problems. Breathing in kerosene fumes regularly has the **equivalent health effect as smoking 40 cigarettes a day**.

LITTLE SUN FOUNDATION



**Why is Kerosene harmful?**

Appearing as a clear liquid, kerosene fuel can often be **mistaken for water by children**, and when drunk, causes severe poisoning. In 2012, 79,750 very young children in South Africa were reported to have unintentionally ingested kerosene (in 3.6% of all households), of which 60% develop a **chemically induced pneumonia**.

LITTLE SUN FOUNDATION



**Why is Kerosene harmful?**

Kerosene lamps produce poor illumination levels, only 1% to 10% of those recommended by lighting authorities in industrialized countries. This causes **eye strain and long lasting visual impairment**.

LITTLE SUN FOUNDATION



**Why is Kerosene harmful?**

In areas lacking access to reliable electricity, there are compromised health services and outcomes in facilities lit only with fuel-based light like kerosene lamps. It is difficult to treat people in emergencies at night when there is only a dim, smoke producing light to see by.

LITTLE SUN FOUNDATION



**Why is Kerosene harmful?**

Women and children spend a larger proportion of their time indoors and so experience a greater exposure to kerosene pollutants than men. People living in rural areas also often have to travel long distances to buy kerosene.

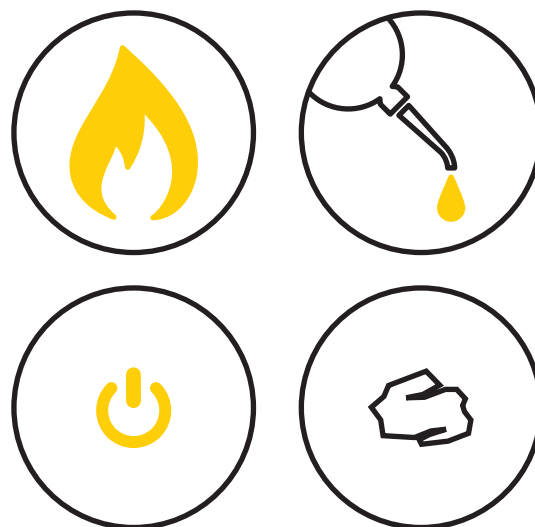
LITTLE SUN FOUNDATION



**Why is Kerosene harmful?**

The World Health Organisation reports that over 4 million people per year die prematurely from illnesses attributable to **household air pollution**.

LITTLE SUN FOUNDATION



**Why is kerosene harmful to the environment?**

Fossil Fuels are the dominant contributor to **climate change**.

LITTLE SUN FOUNDATION



**3%**

**Why is kerosene harmful to the environment?**

Inefficient kerosene lamps emit extremely high levels of black carbon. This contributes to **global warming** because incomplete combustion of the lamp fuel produces black carbon that absorbs light, thereby heating the atmosphere. 3% of global black carbon emissions come from kerosene lamps.

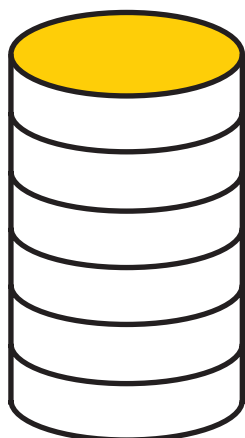
LITTLE SUN FOUNDATION



**Why is kerosene harmful to the environment?**

Kerosene- fueled lighting contributes to greenhouse gases and global warming at a rate equivalent to **240 million tons of CO<sup>2</sup>**, which is 0.5% of global emissions.

LITTLE SUN FOUNDATION



**Monthly income**



**Energy costs alone**

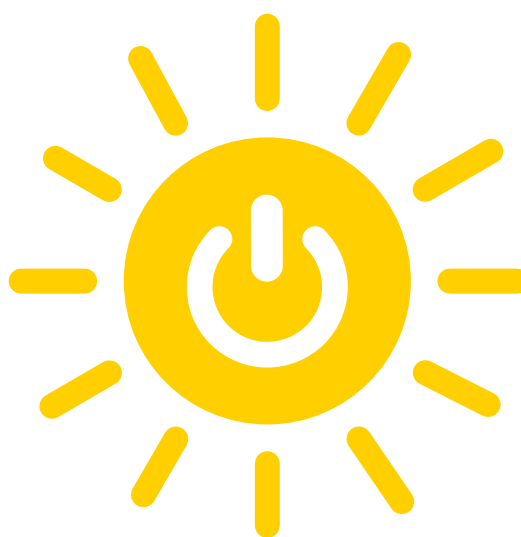
**How expensive is kerosene?**

Kerosene lamps and other fuel-based illumination are more expensive than renewable energies like solar power. The 1.1 billion people around the world who earn approximately one dollar per day pay a much higher percentage of their income for low-grade and polluting fuel based lighting (approximately 10-25% of their monthly budget) than people who have regular access to electric lighting.

Today, more people than the world's population at the time Thomas Edison introduced electricity in the 19th century, spend nearly USD 40 billion annually (100 times the cost an equal amount of electric light) to operate highly inefficient and dangerous kerosene lamps.

LITTLE SUN FOUNDATION

**The Solution: stop using kerosene & switch to solar power!**



In September 2015, the world's leaders came together to agree on 17 Sustainable Development Goals (SDGs). One of those goals, SDG 7, calls for us to secure access to affordable, reliable, sustainable and modern energy for all by 2030.

To achieve this energy target, we need to replace the harmful, inefficient lighting fuels like kerosene with clean fuel and technologies. If this target is met, it could prevent millions of deaths and improve the health and well-being of the billions of people relying on polluting fuels and technologies for cooking, heating and lighting. Energy efficient, off-grid solar lighting solutions offer the most promising and scalable means to eliminate the adverse health outcomes associated with fuel-based lighting. Solar power is also a cheaper alternative, and drastically reduces greenhouse gas emissions and prevents climate change and dangerous kerosene lamps.

LITTLE SUN FOUNDATION