

# Chemistry project

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By group 4

# Sodium

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Symbol- Na

Atomic Mass – 22.989769U

Physical properties-

1. Sodium is silver-white in colour
2. It is capable of being shaped or bent.
3. It easily pulled or stretched into a thin wire
4. It is lustrous having a shine or glow.
5. It is Conductive and has a good transmission of heat and electricity.
6. It is Soft enough to be cut with a knife.

Chemical properties-

It's a soft metal, reactive and with a low melting point, with a relative density of 0,97 at 20°C (68°F). From the commercial point of view, sodium is the most important of all the alkaline metals. Sodium reacts quickly with water, and also with snow and ice, to produce sodium hydroxide and hydrogen.

# Potassium

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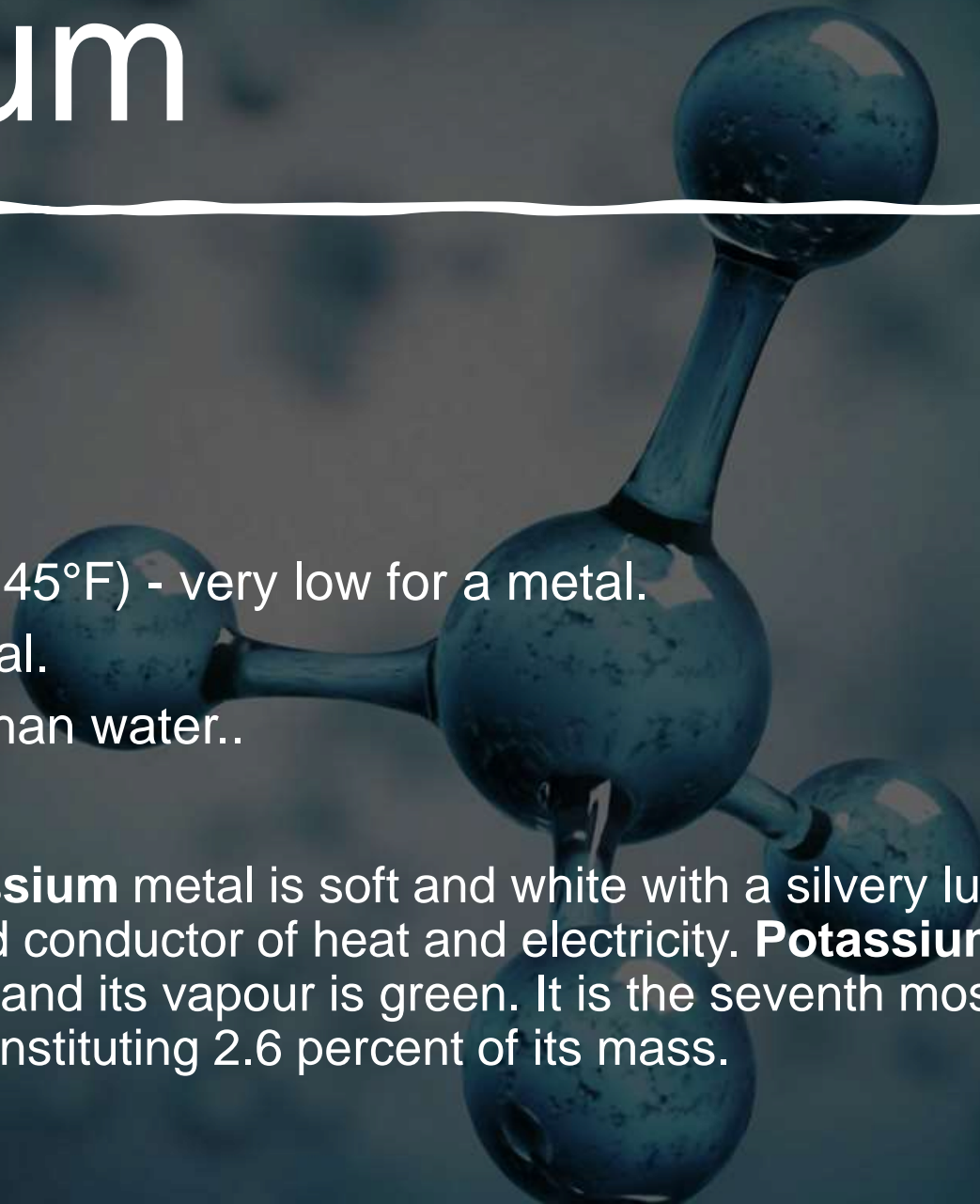
Symbol- K

Atomic Mass –39.0983 u

Physical Properties-

1. It is Solid.
2. Melting point of 63°C (145°F) - very low for a metal.
3. It is a Silvery-white metal.
4. Its density being Less than water..

- Chemical Properties-**Potassium** metal is soft and white with a silvery lustre, has a low melting point, and is a good conductor of heat and electricity. **Potassium** imparts a lavender colour to a flame, and its vapour is green. It is the seventh most abundant element in Earth's crust, constituting 2.6 percent of its mass.



# Benefits of Sodium

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- It flavours food and is used as a binder and stabilizer. It is also a food preservative, as bacteria can't thrive in the presence of a high amount of salt. The human body requires a small amount of **sodium** to



# Benefits of Potassium

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- **Potassium** is one of the most important minerals in the body. It helps regulate fluid balance, muscle contractions and nerve signals. What's more, a high-**potassium** diet may help reduce blood pressure and water retention, protect





# Risk factors of Sodium



- Low blood **sodium** is common in older adults, especially those who are hospitalized or living in long-term care facilities. Signs and symptoms of hyponatremia can include altered personality, lethargy and confusion. Severe hyponatremia can cause seizures, coma and even death.

# Risk factors of Potassium



- **Hypokalaemia**, is a condition in which a person does not get enough **potassium** for their body. It can be due to a poor diet or loss due to diarrhoea or vomiting. **Potassium deficiency** can result in medical conditions like high blood pressure, constipation, muscle weakness,

# SCRIPT

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NARRATOR- Baljot Singh Sekhon

SODIUM-AVANEE KOTHARI

POTASSIUM-AARUSH JHUNJHUNWALA

HUMAN BRAIN- Tanish Kedia

NARRATOR 2 –Bhoomika Lunia

## STORY

**NARRATOR**-It was an early Sunday morning when in the body of Vedika started a fight between two elements, Sodium and Potassium.

**POTASSIUM**- Sodium you have to obey my orders from today as I have an atomic mass of 39.0983 u. But you have a much smaller mass than me which is of just 22.989769 u

**Sodium**: So, what if you have a greater atomic mass I have other qualities in me.

**Potassium**: What qualities! Huh. I have 19 atoms and you only 11.



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**Sodium:** Now you are starting a fight. Don't make me angry. And to remind you the body parts love me more and I have less risk factors than you have.

**Human Brain:** Both of you, stop fighting. You may have risk factors but you both are equally important for the body. The human body requires a small amount of **sodium** to conduct nerve impulses, contract and relax muscles, and maintain the proper balance of water and mineral. On the other hand, potassium helps regulate fluid balance, muscle contractions and nerve signals.

**Sodium** – Now I understood, that we both are of equal importance to the body and none of us are greater than the other. Thank you Brain for explaining us

**Potassium** – Sorry sodium for being rude, now I also have understood that there is no point in fighting, and we both are equal. Thank you Brain for correcting us

**Lesson learnt** – Every component in our body is vital for the functioning of the human body. They all are equal and have their own importance.

THANK YOU

# Contribution

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- Aarush Jhunjhunwala ( Group Leader)- Symbol, Atomic Mass , Physical and Chemical properties of Sodium and Potassium ; Made presentation; Script idea and written by
- Bhoomika Lunia – Risk factors of Sodium and Potassium; Made presentation ;Script written by
- Avanee Kothari - Symbol, Atomic Mass , Physical and Chemical properties of Sodium and Potassium;

Thank you