

8  
O  
Oxygen

16  
S  
Sulphur

34  
Se  
Selenium

52  
Te  
Tellurium

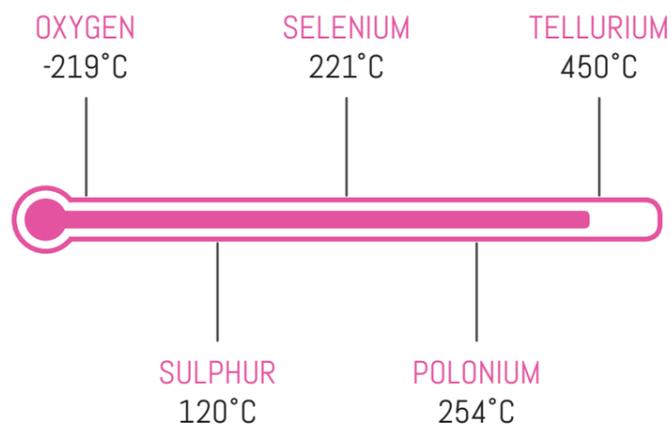
84  
Po  
Polonium

116  
Lv  
Livermorium

# Group 16 - The Chalcogens

THE GROUP 16 ELEMENTS ARE A MIX OF ELECTRONEGATIVE NON-METALS & METALLOIDS COMMONLY ASSOCIATED WITH METAL BEARING MINERALS

## MELTING POINTS

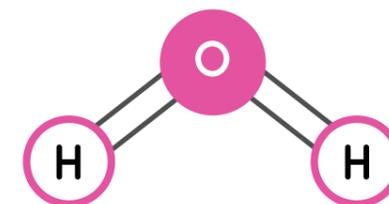


ALL OF THE SOLID CHALCOGENS ARE **SOFT** AND **DON'T CONDUCT HEAT WELL**

**OXYGEN** MAKES UP **65%** OF THE HUMAN BODY



ALL OF THE COMPOUNDS OF **HYDROGEN WITH CHALCOGENS** ARE **TOXIC**

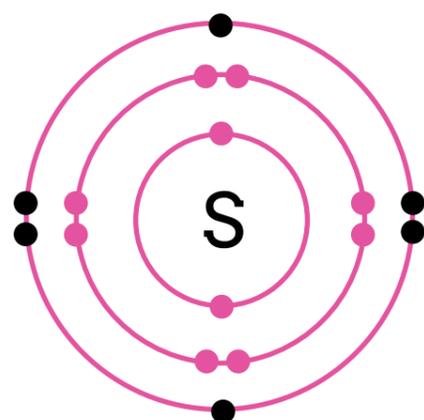


APART FROM WATER



**OXYGEN** IS THE ONLY **GASEOUS CHALCOGEN**

**SELENIUM, TELLURIUM & POLONIUM** ARE ALL **METALLOIDS**



ALL OF THE GROUP 16 ELEMENTS HAVE **SIX VALENCE ELECTRONS**

## ALLOTROPES

**OXYGEN**  
NINE  
O<sub>2</sub> O<sub>3</sub> O<sub>4</sub> O<sub>8</sub>

**SULPHUR**  
TWENTY  
S<sub>2</sub> S<sub>3</sub> S<sub>4</sub> S<sub>8</sub>

**SELENIUM**  
FIVE  
MAINLY Se<sub>8</sub>

**POLONIUM**  
TWO  
α-Po & β-Po

ALL THE GROUP 16 ELEMENTS **FORM - 2 IONS** WHEN REACTING WITH **ELECTROPOSITIVE METALS**

**SULPHUR DIOXIDE** REACTS WITH WATER VAPOUR TO FORM **SULPHURIC ACID** AND CAUSE **ACID RAIN**



## USES OF THE CHALCOGENS



**OXYGEN**  
MAKING STEEL  
ROCKET FUEL



**SULPHUR**  
GUNPOWDER  
SULPHURIC ACID



**SELENIUM**  
PHOTOCOPIERS  
GLASS-MAKING



**TELLURIUM**  
CD-RW DISCS  
SOLAR PANELS



**POLONIUM**  
ALPHA PARTICLE GENERATOR IN RESEARCH