

# Group 7 - The Halogens

GROUP 7 IS THE ONLY GROUP THAT CONTAINS ELEMENTS IN ALL THREE STATES OF MATTER. THEY ARE ALL REACTIVE NON-METALS

9  
F  
Fluorine

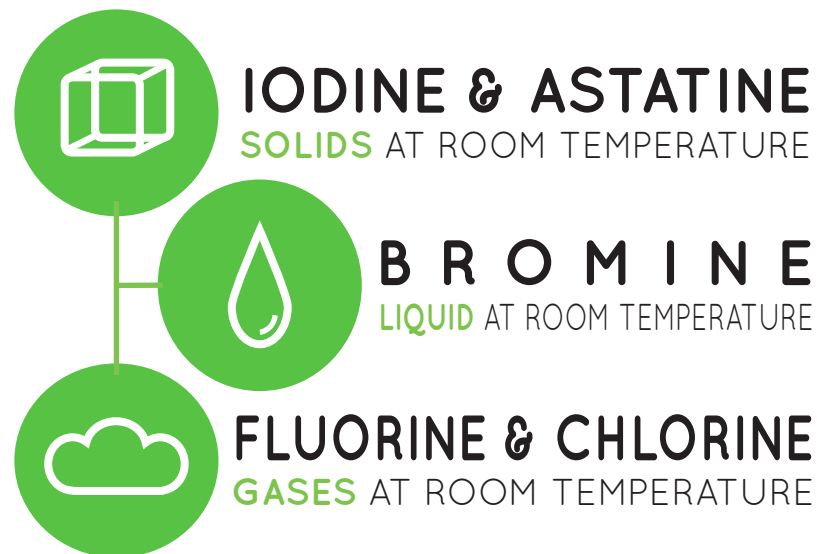
17  
Cl  
Chlorine

35  
Br  
Bromine

53  
I  
Iodine

85  
At  
Astatine

117  
Uus  
Ununseptium

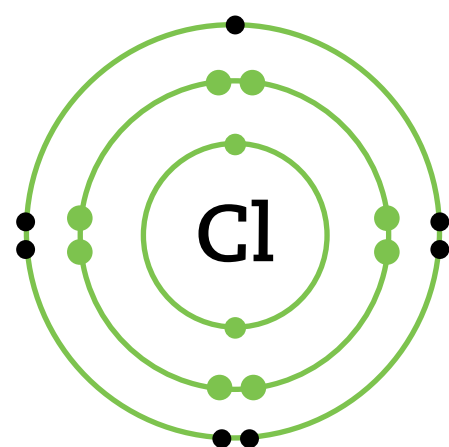


THE HALOGENS ALL FORM **DIATOMIC** MOLECULES EXCEPT FOR ASTATINE



**HYDROFLUORIC ACID** LEACHES CALCIUM FROM BONES AND CAN CAUSE VERY PAINFUL BURNS

IT ALSO **DISSOLVES GLASS**



**ALL OF THE GROUP 7 ELEMENTS HAVE SEVEN VALENCE ELECTRONS**

THE HALOGENS REACT WITH **OXYGEN** TO FORM **HALOGEN OXIDES**

THE HALOGENS REACT WITH **METALS** TO FORM **METAL HALIDES**

THE HALOGENS ARE USED AS **OXIDISING AGENTS**

WHILST HALIDE IONS ARE USED AS **REDUCING AGENTS**



THE **REACTIVITY** OF THE HALOGENS **DECREASES DOWN THE GROUP** AS IT BECOMES HARDER TO **ADD AN ELECTRON**

**1 GRAM**

ESTIMATED AMOUNT OF **ASTATINE** IN THE EARTH'S CRUST AT ANY ONE TIME

## USES OF THE HALOGENS



**FLUORINE**  
TOOTHPASTE  
REFRIDGERANT GASES



**CHLORINE**  
BLEACH  
CHEMICAL WARFARE



**BROMINE**  
FIRE RETARDANT MATERIALS



**IODINE**  
DISINFECTANTS