

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

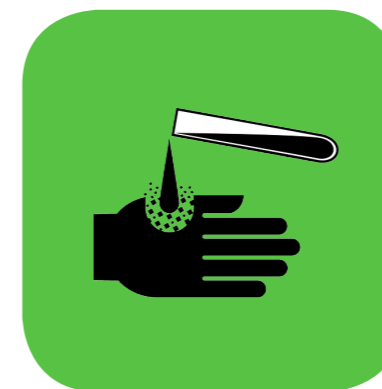
117
Uus
Ununseptium

 **IODINE & ASTATINE**
SOLIDS AT ROOM TEMPERATURE

 **BROMINE**
LIQUID AT ROOM TEMPERATURE

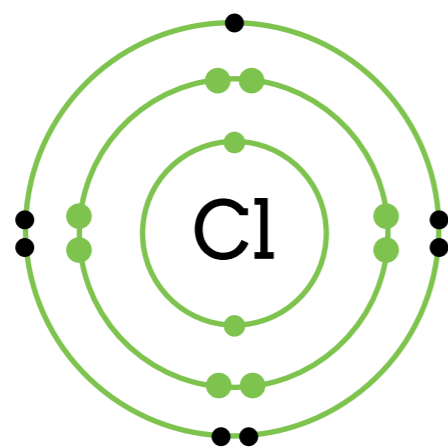
 **FLUORINE & CHLORINE**
GASES AT ROOM TEMPERATURE

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
REFRIGERANT
GASES



CHLORINE
BLEACH
CHEMICAL
WARFARE



BROMINE
FIRE RETARDANT
MATERIALS



IODINE
DISINFECTANTS