

7  
N

Nitrogen

15  
P

Phosphorus

33  
As

Arsenic

51  
Sb

Antimony

83  
Bi

Bismuth

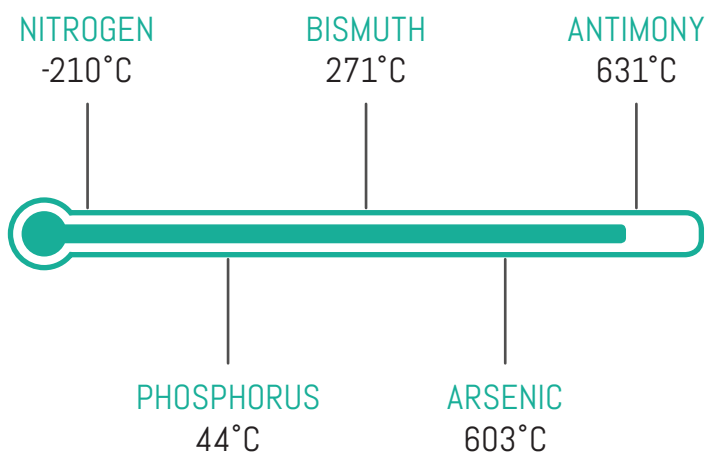
115  
Uup

Ununpentium

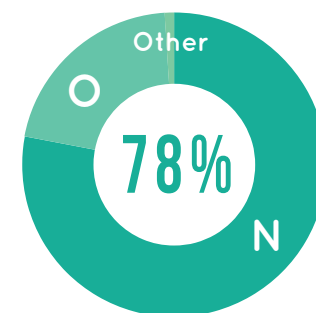
# Group 15 - The Pnictogens

THE GROUP 15 ELEMENTS ARE ALL SOLIDS APART FROM NITROGEN, AND ARE A MIX OF NON-METALS, METALLOIDS AND A METAL

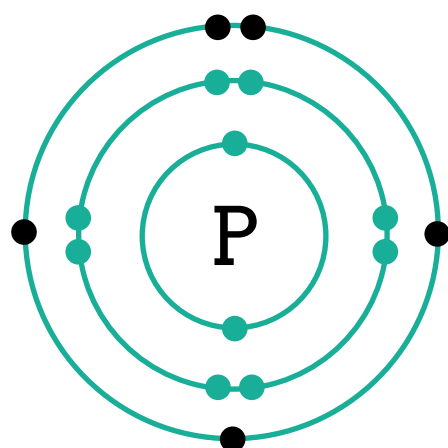
## MELTING POINTS



**BISMUTH**  
IS THE ONLY  
METALLIC  
ELEMENT  
PRESENT  
IN GROUP 15



NITROGEN IS  
**THE MOST**  
ABUNDANT ELEMENT  
IN THE EARTH'S ATMOSPHERE



**ALL**  
OF THE  
GROUP 15 ELEMENTS  
HAVE  
**FIVE**  
VALENCE ELECTRONS

THE PNICTOGENS  
FORM **PNICTIDES**  
WITH MOST ELEMENTS

PNICTOGENS FORM:

**HYDRIDES**  
WITH **HYDROGEN**  
**OXIDES**  
WITH **OXYGEN**  
**HALIDES**  
WITH **HALOGENS**

PHOSPHORUS  
CONTAINING  
**CALCIUM PHOSPHATE**  
COMPOUNDS  
MAKE UP



OF HUMAN  
BONE

ANCIENT EGYPTIANS  
USED THE  
**ANTIMONY COMPOUND**  
CALLED STIBNITE AS  
**EYE MAKE-UP**



**0.06** LETHAL DOSE  
**GRAMS** OF **ARSENIC**

## USES OF THE PNICTOGENS



**NITROGEN**  
EXPLOSIVES  
FERTILISERS



**PHOSPHORUS**  
SAFETY MATCHES  
SMOKE BOMBS



**ARSENIC**  
AMMUNITION  
MANUFACTURING



**ANTIMONY**  
FLAME  
RETARDENTS  
COSMETICS



**BISMUTH**  
X-RAY SHIELDS  
MEDICINES