IMPORTANT / PREAMBLE

Do not use filtering masks if the proportion of oxygene is inferior to 17% (these masks do not provide oxygene). Do not use in explosive atmospheres. Always control the state of the mask and its airtightness. Check that this type of product is compatible with the foreseen work. Check the concentrations (MAC/OEL/TLV and APF)

MAC = Maximum Admissible Concentration
OEL = Occupational Exposure limit
TLV = Treshold Limit Value
APF = Assigned Protection Factor
Before using the products, read carefully the informations given with them.

What is an aerosol?

It is a suspension in a gaseous environment (air or other gas - air and a gas composed of 21% of oxygene, 78% of nitrogene and 1% of other gas) with solid or liquid colloidal particles (size superior to the size of molecules) .The fog and the clouds are aerosols.

Two types of aerosols are distinguished :

solid aerosol

- Aerosol which base is water.When they are scatterbrained , the particles staying in the air can be dangerous.

- liquid aerosol

Aerosol which base isn't water (example :base of alcohol, solvant , …).In this case, the same nebulization can be dangerous.

What are the particles of matter (or dust)?

They are bodies sufficiently little to stay in suspension in the air. It exists different types of dust: vegetal (for example, the pollen), domestic (spores) ,industrial (broyage, grinding : rocks, metals,…), raw materials (for example asbestos).

The particles are defined according to their characteristics (natural), their size (dimension or granulometry) ,their concentration (M.V.E. = middle value of exposition).

According to their degree of dangerousity, we have three categories:

They make you feel ill at ease: they are inert particles (neither fibrogenes nor toxic) with a diameter superior or equal to 5 microns.
=> their action is limited to respiratory tracts :nasal pits, pharynx, larynx.

They are noxious: inert or particles o fibrógenas (not toxic), diameter between 5 and 0,2 microns.
=> their action are felt in the median respiratory tracts : trachea, artery and bronchitis.

Toxic: inert, toxic, fibrógenas particles, with a diameter between 0,2 and 0,02 microns.
=> they go in the respiratory tracts: air cells and bronchus.

How are they dangerous?

The particles that are inhaled can provoke numerous respiratory problems and serious diseases (cough, asthma, bronchitis)

Respiratory protection

Standards

EN149 :

«Protection respirator Filtering half-mask against particles. Required conditions, tests.

FFP1: Protection against non toxic solid and liquid aerosols with concentrations up to 4,5 x MAC/OEL/TLV or 4 x APF.
FFP2: Protection against non toxic and low-to-average toxicity solid and liquid aerosols, in concentrations up to 12 x MAC/OEL/TLV or 10 x APF.
FFP3: Protection against non-toxic, low-to-average toxicity and high toxicity solid and liquid aerosols, in concentrations up to 50 x MAC/OEL/TLV or 20 x APF.

EN140

«Respiratory protective devices. Half-masks and quarter_ masks. Requirements, testing, marking».

EN141

«Respiratory protective devices. Gas filters and combined filters. Requirements, testing, marking».
These filters are classified in types and class according to the use and the filtering capacity.

Type A (brown) : against gas and organic vapours with a boiling point superior to 65°c
Type B (grey): against certain gas and inorganic vapours (excluding the carbon monoxide)
Type E (yellow): against sulphur dioxide , other gas , acid vapours
Type K (green): against ammonia and organic derivatives of ammonia.

These 4 types have a class number
1 = filter of little capacity
2 = filter of middle capacity
3 = filter of high capacity

EN143

Breathing protective equipment.
Filters against particles. Required conditions, tests, marked».
Classification according to the filter's efficiency
P1, P2 or P3.