

# EXPLOSIONES INDUSTRIALES



# Que es una Explosión?



**Liberación**

**Gas**

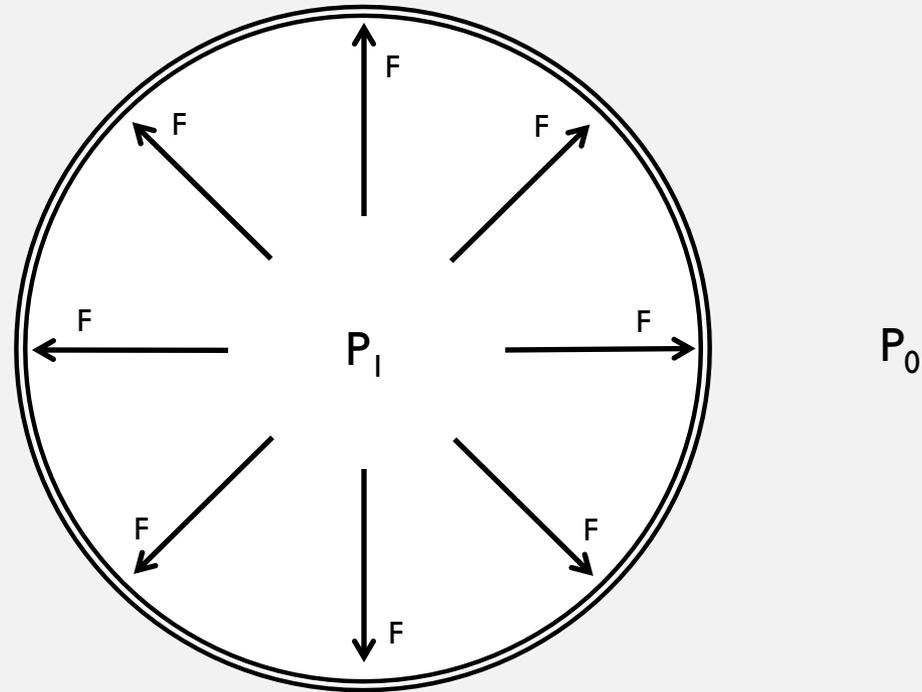
**Alta Presión**

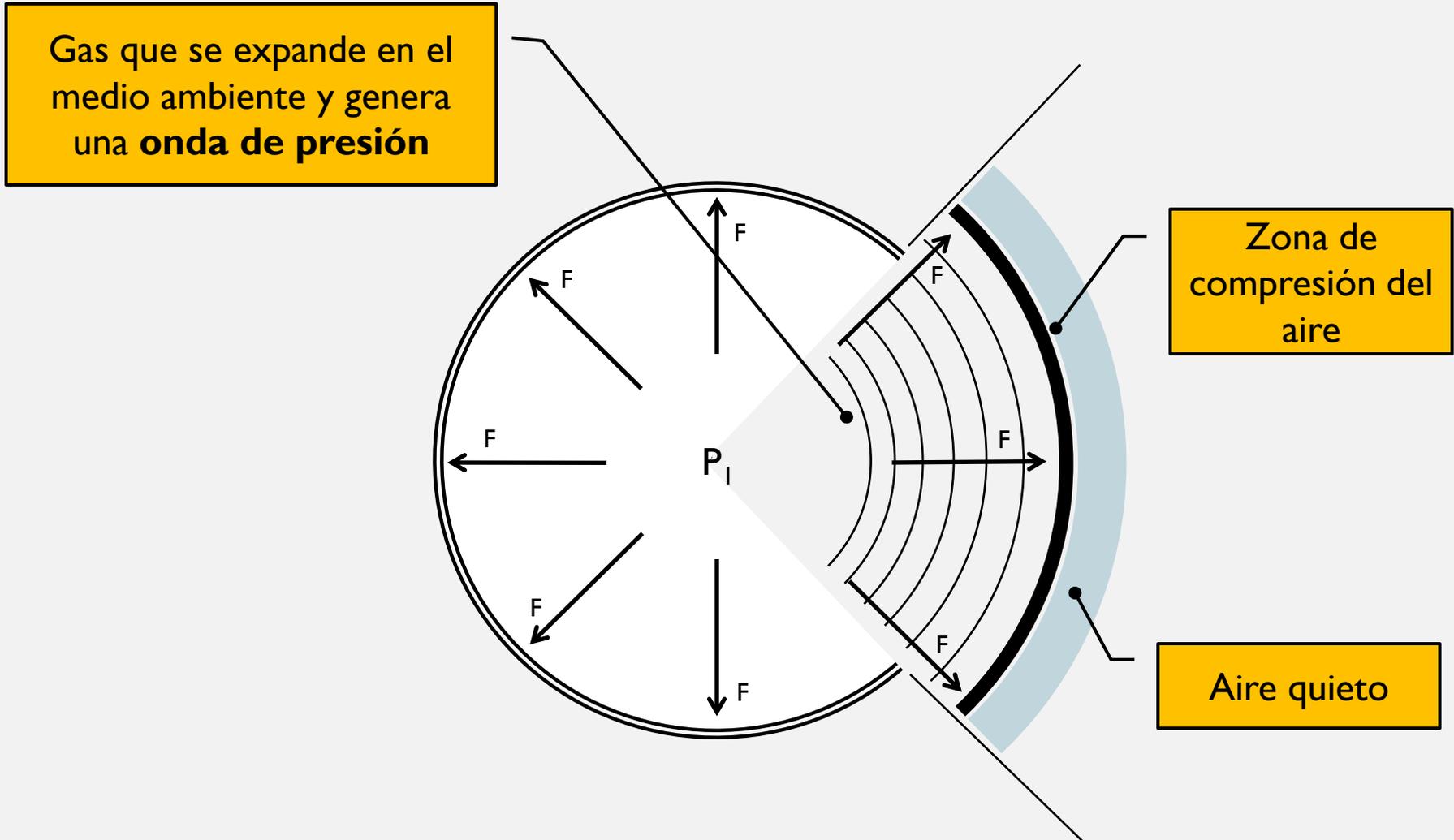
**Ambiente**

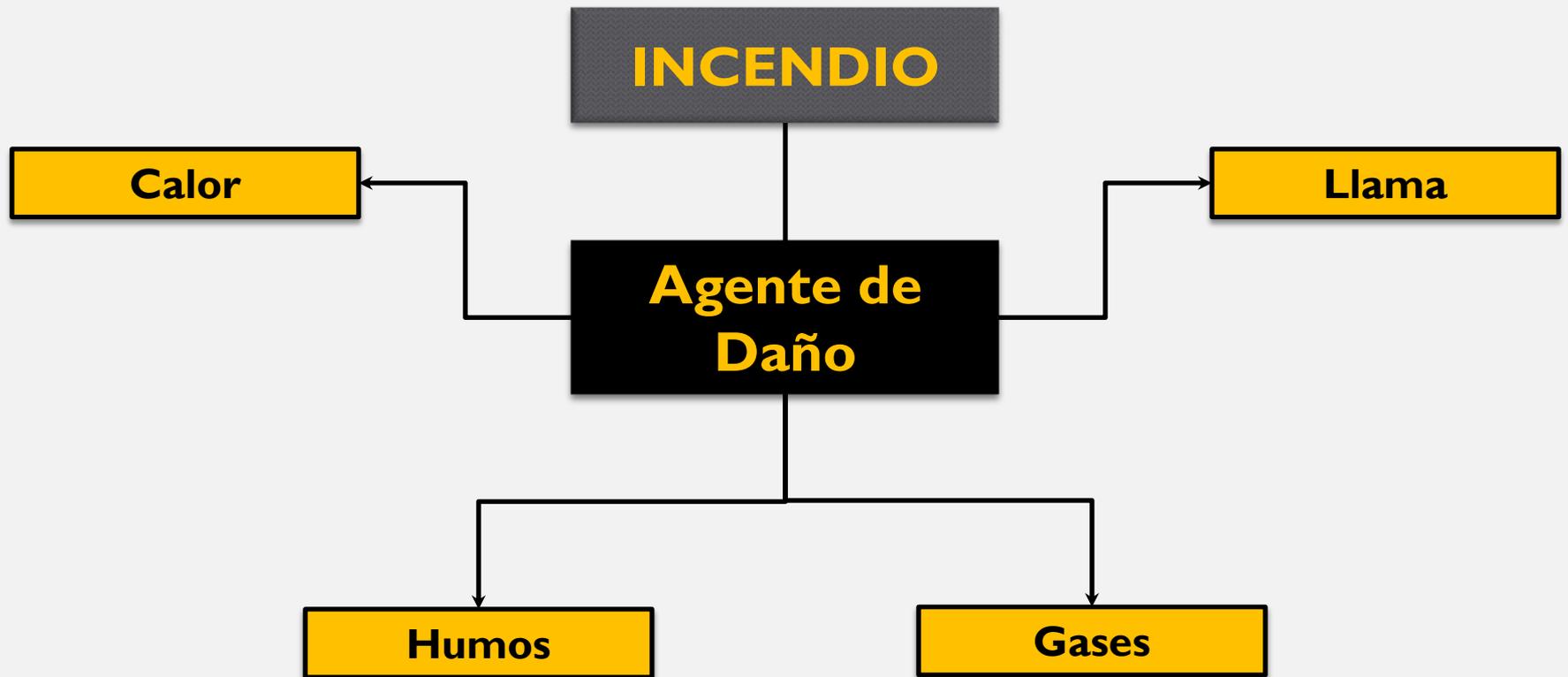
**Súbita**

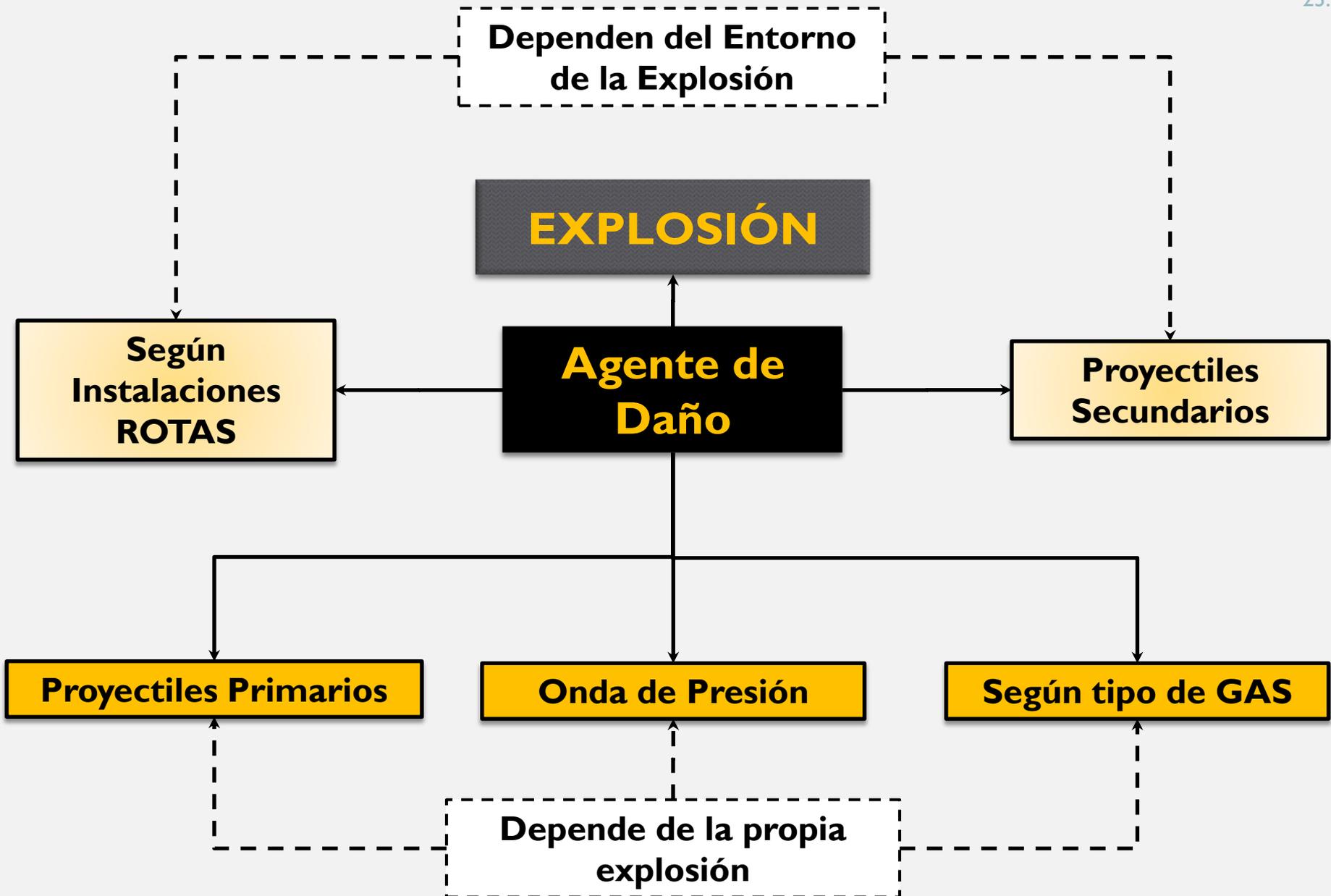


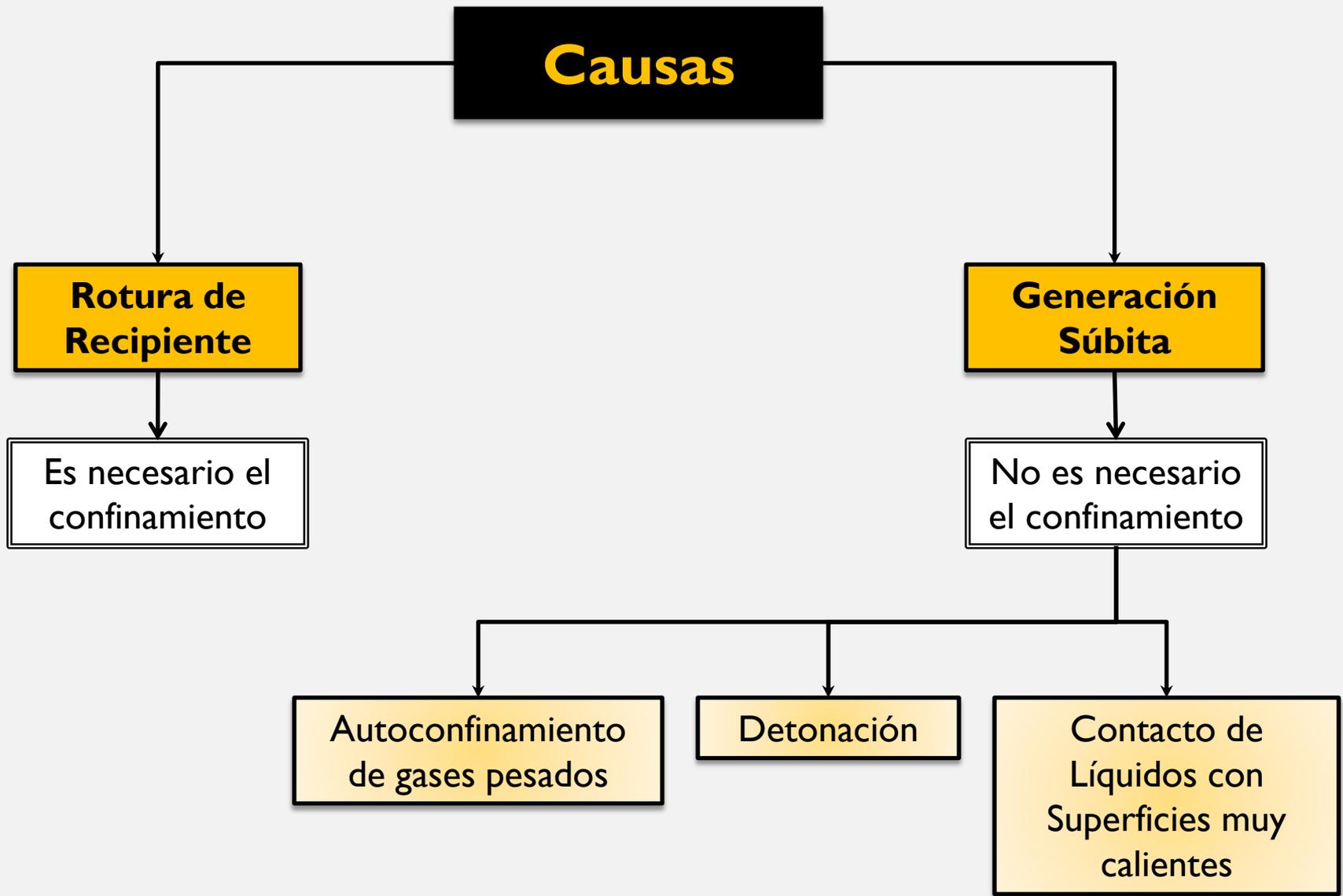
$$P_1 \gg P_0$$





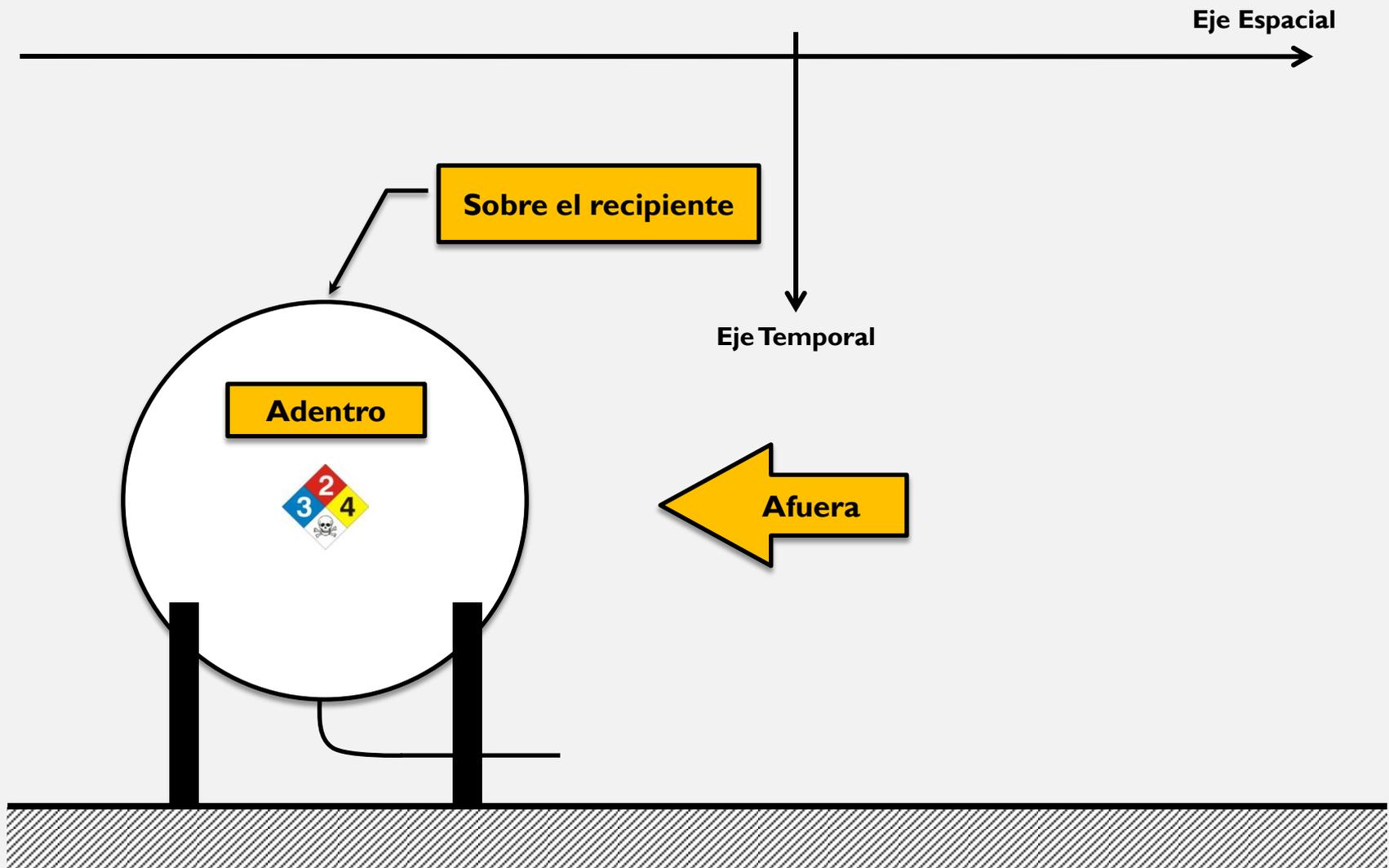






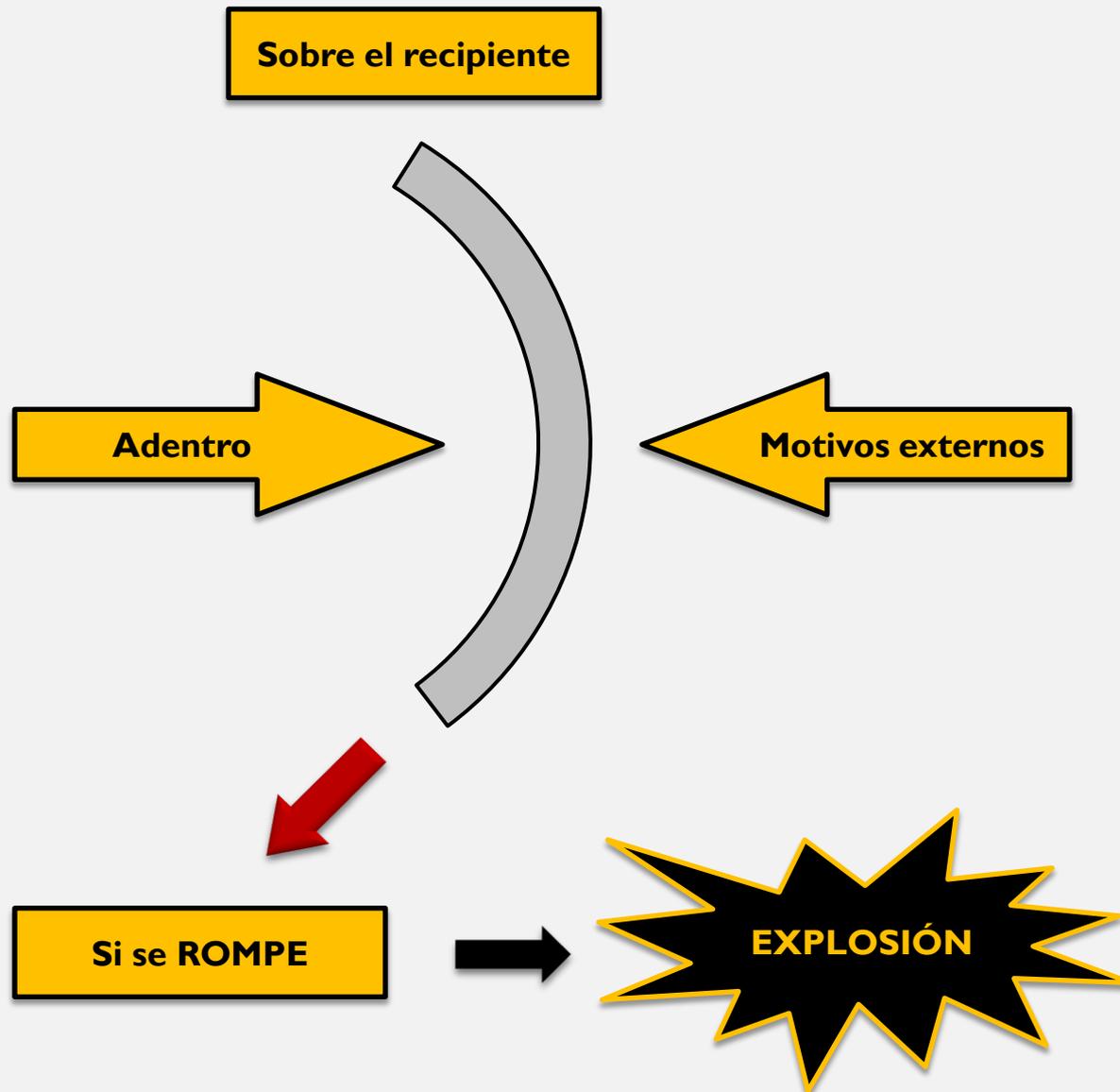
# Análisis de los Explosión que Necesitan Confinamiento

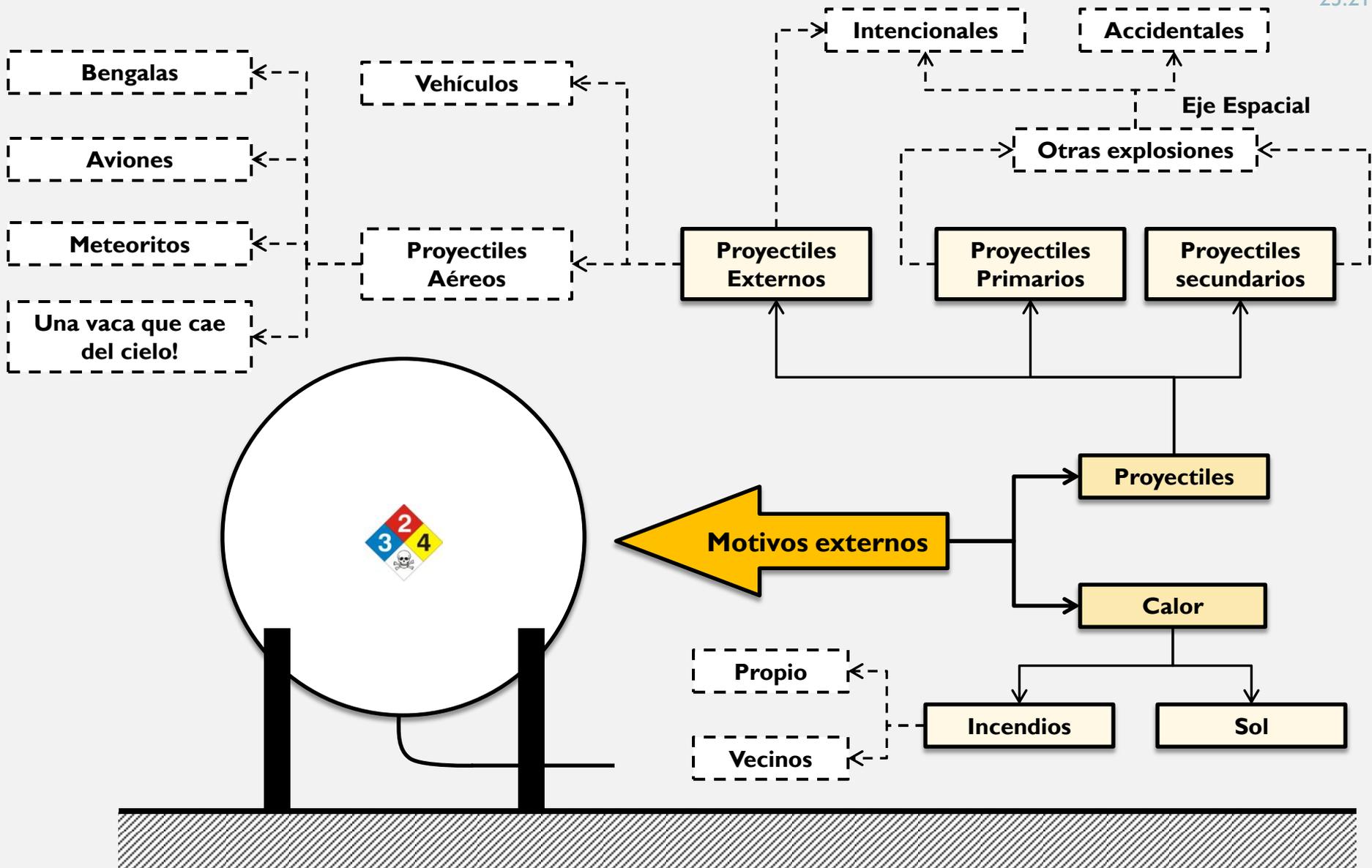


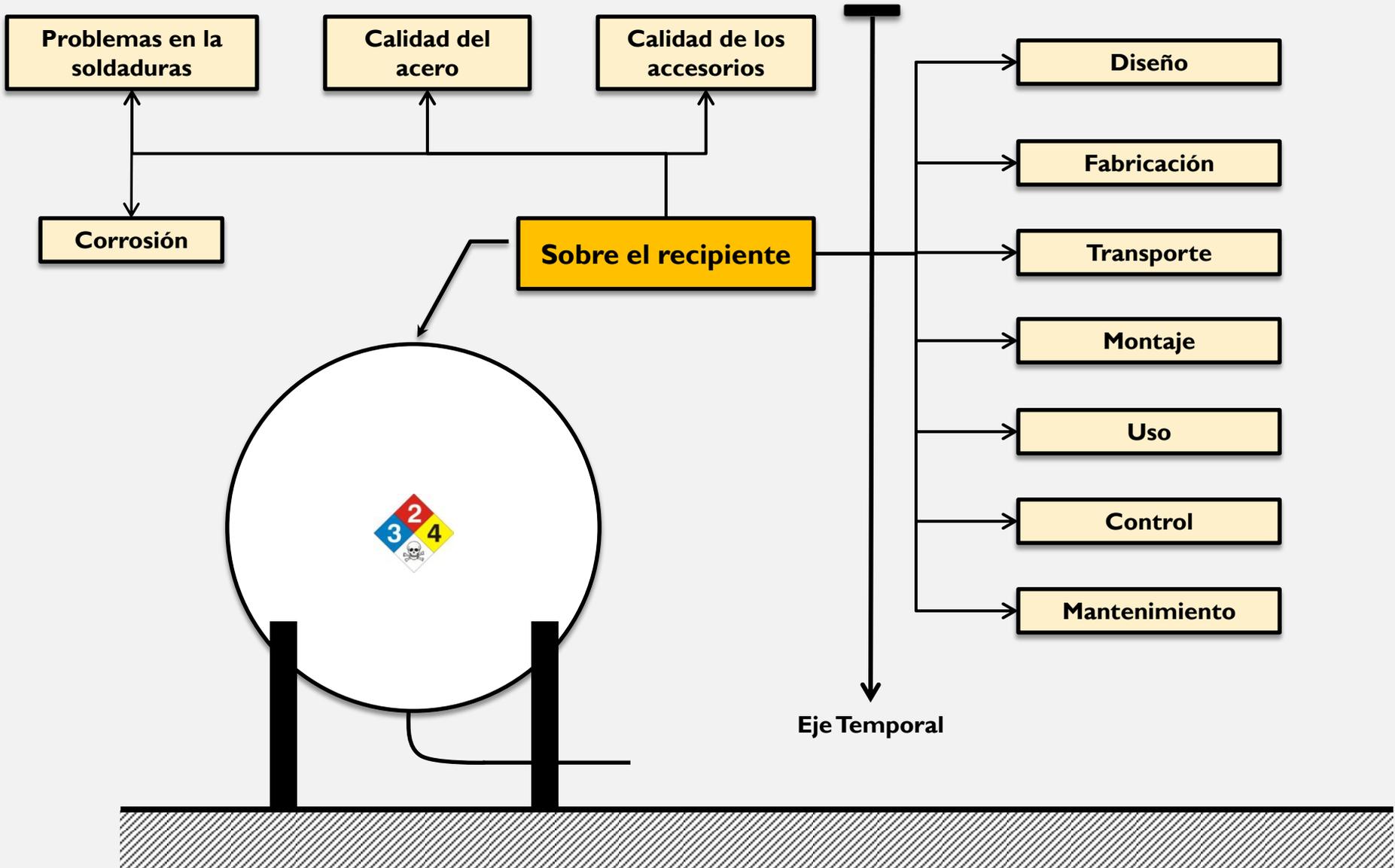


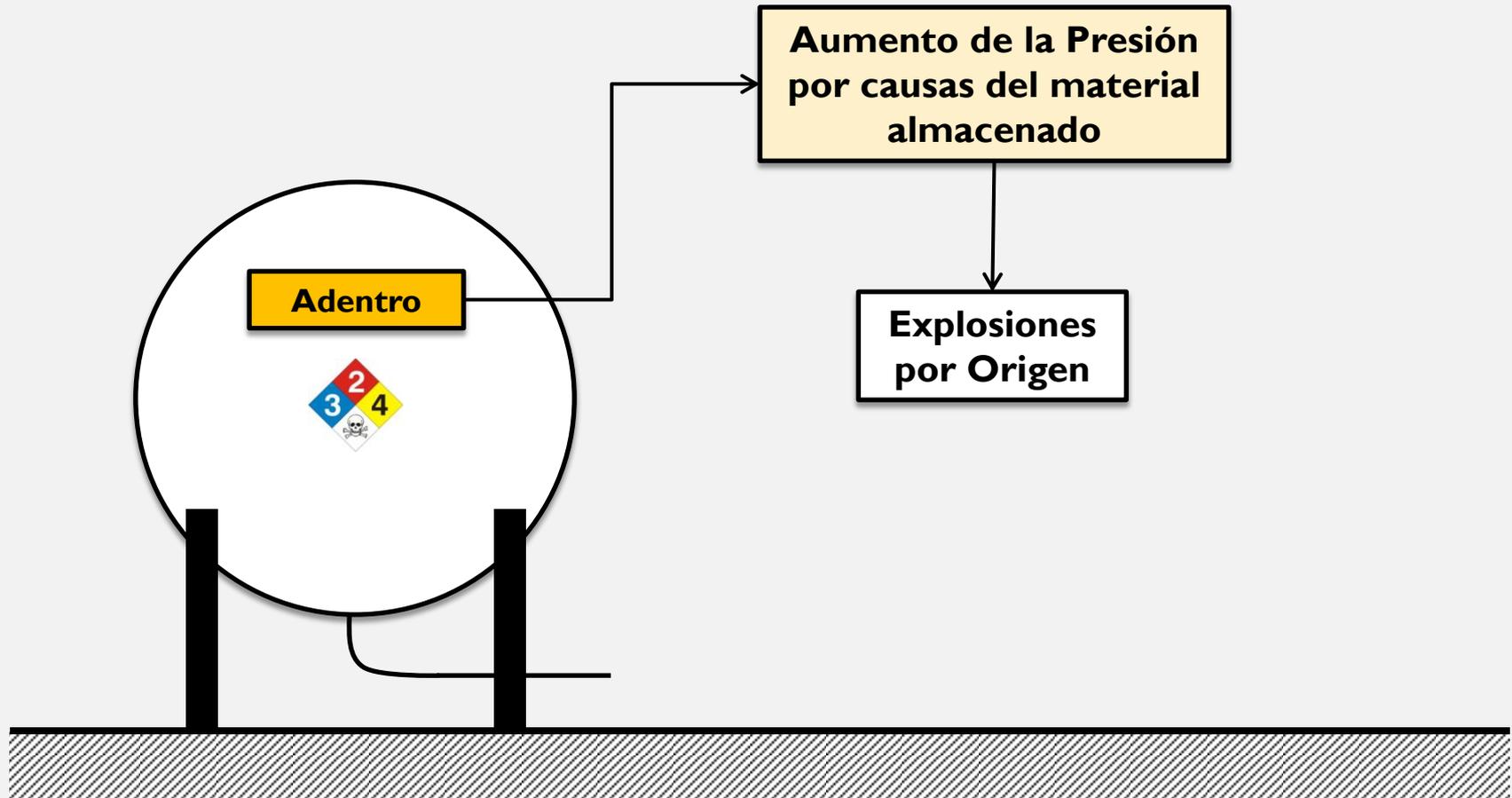
# La Explosión es un Proceso Relativo

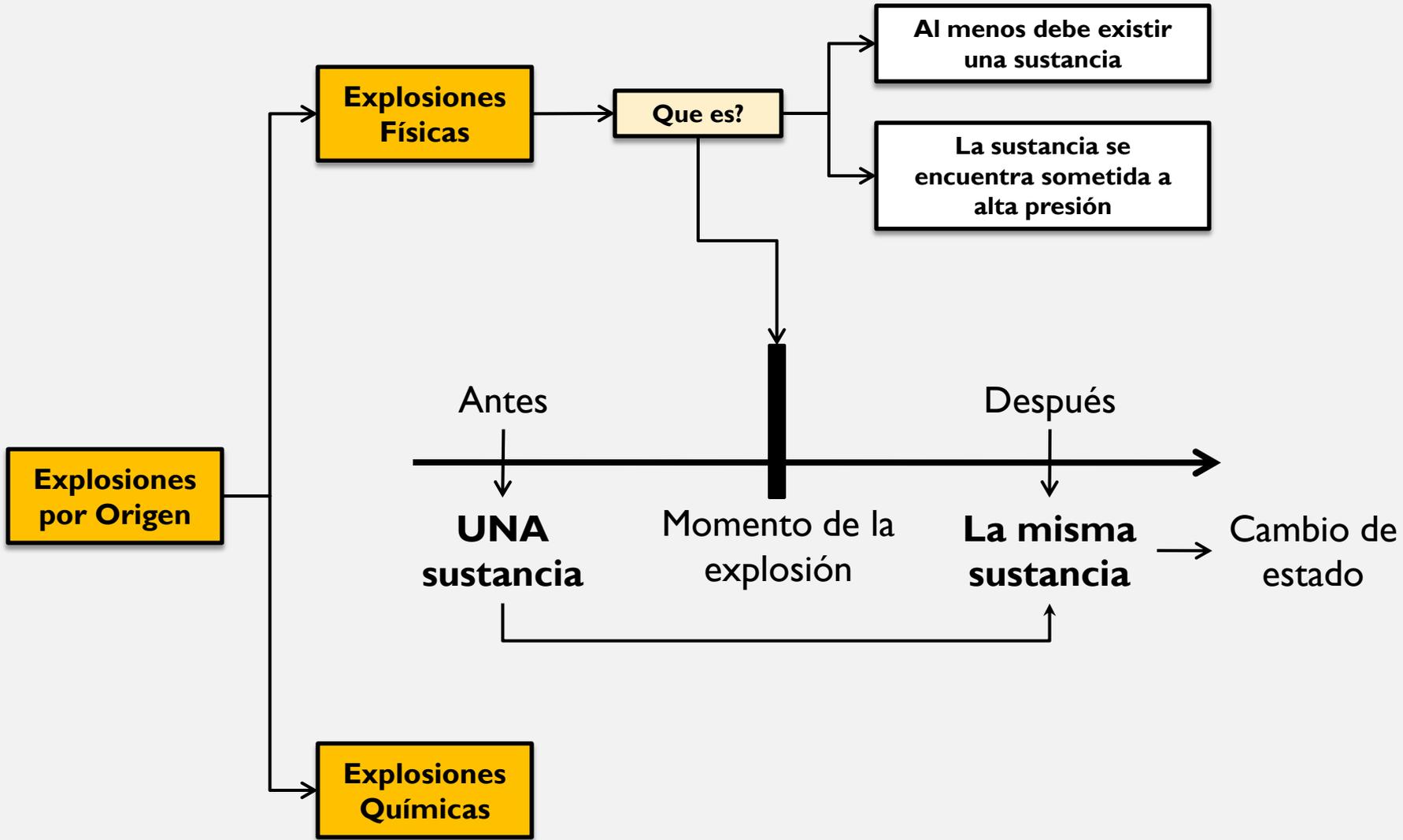


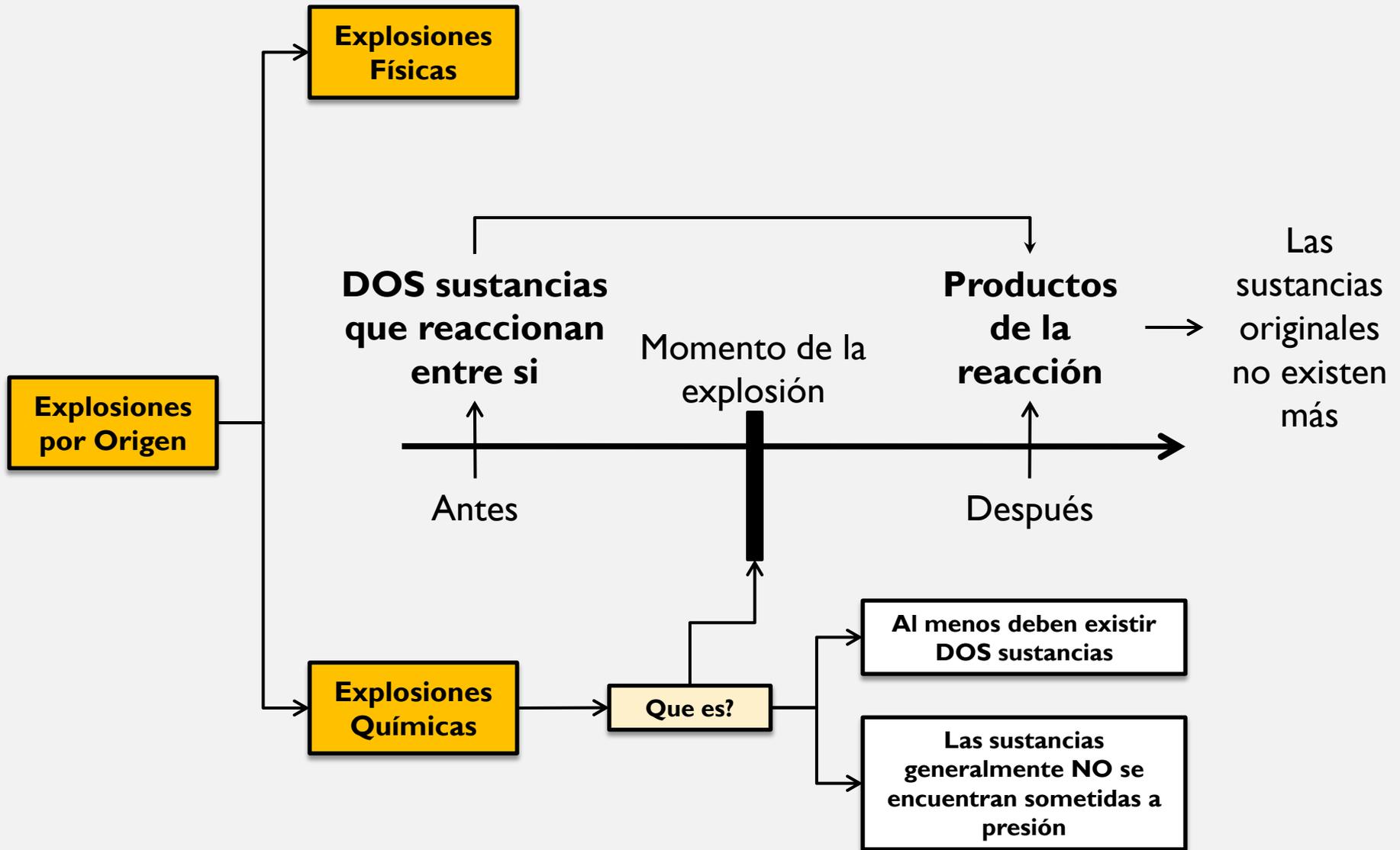








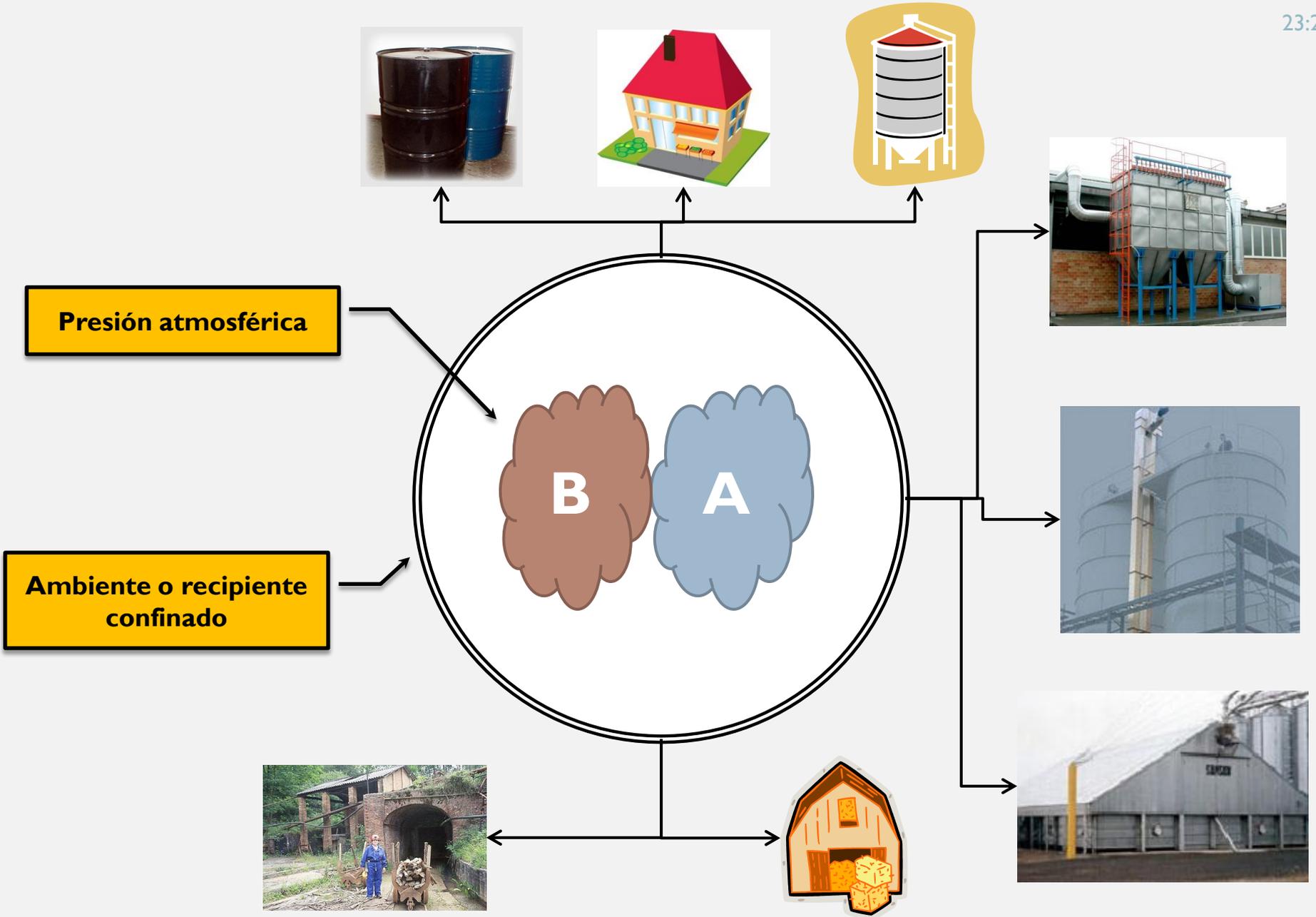


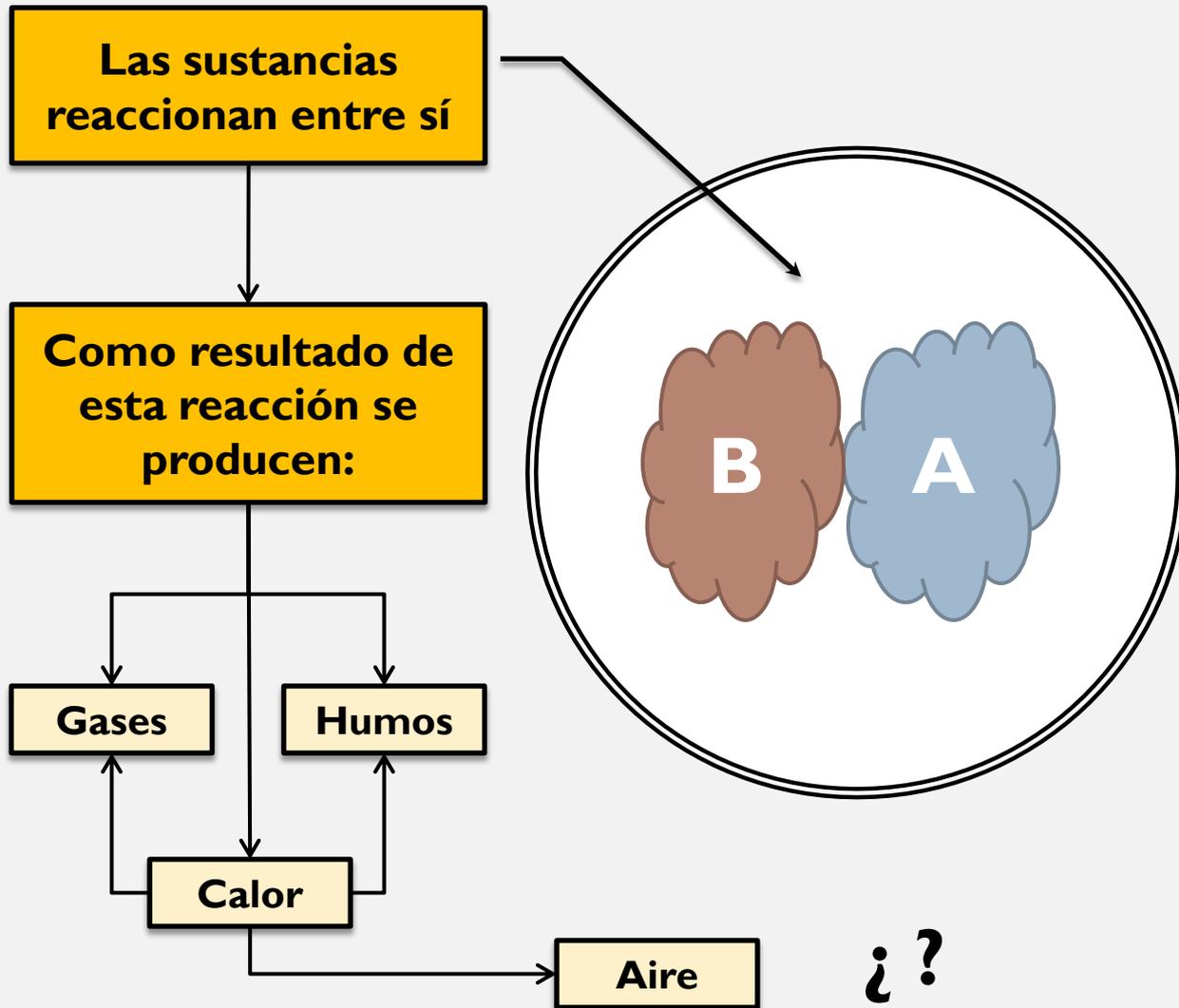


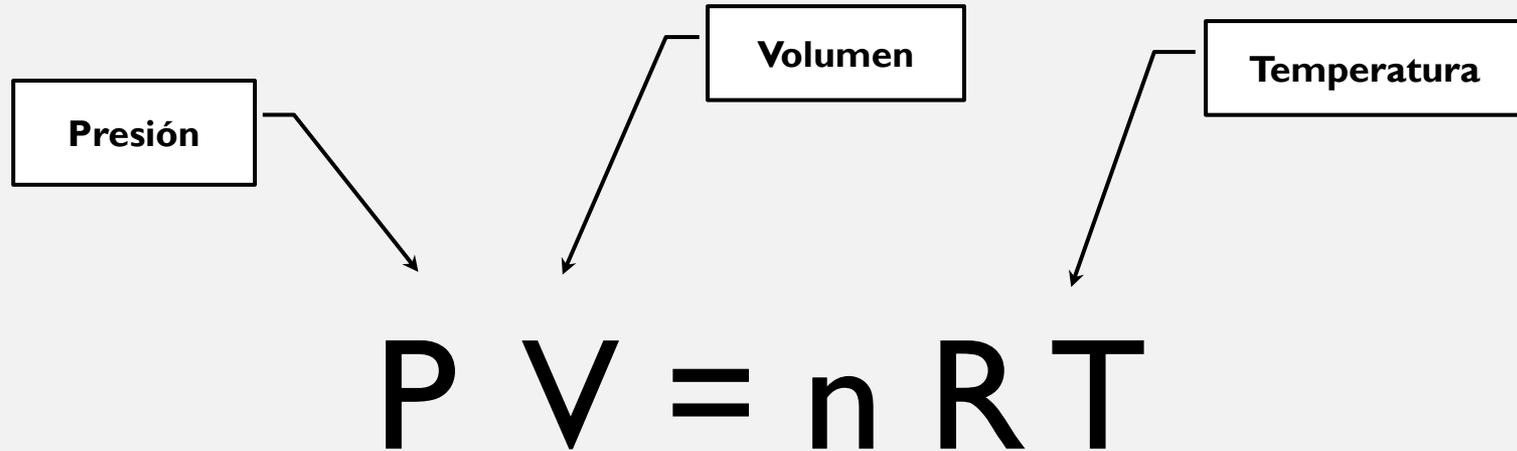
# Cómo Suceden las Explosiones Químicas?

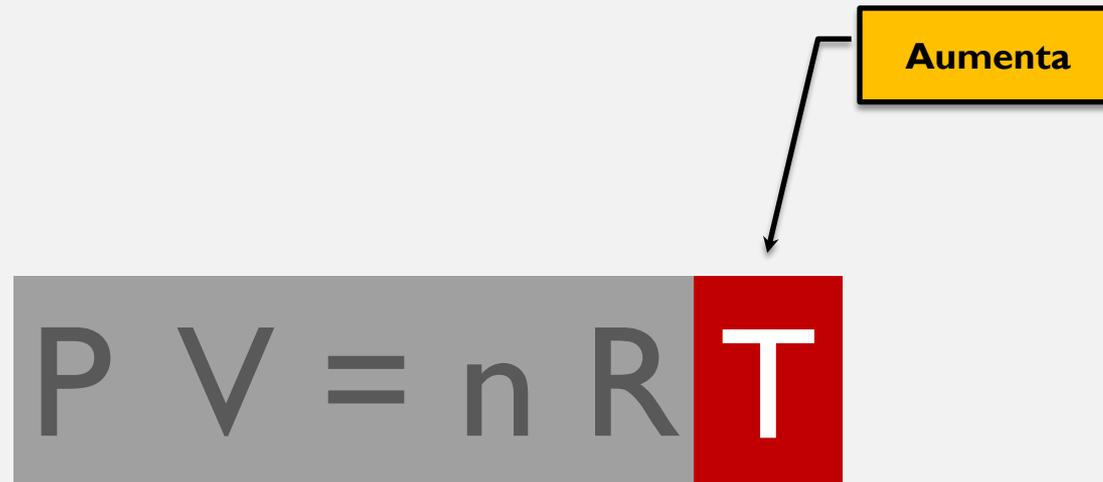


**Todas las Explosiones Químicas  
pasan de la misma manera.  
Sólo cambia las formas de  
reaccionar y los tipos de  
sustancias involucradas**



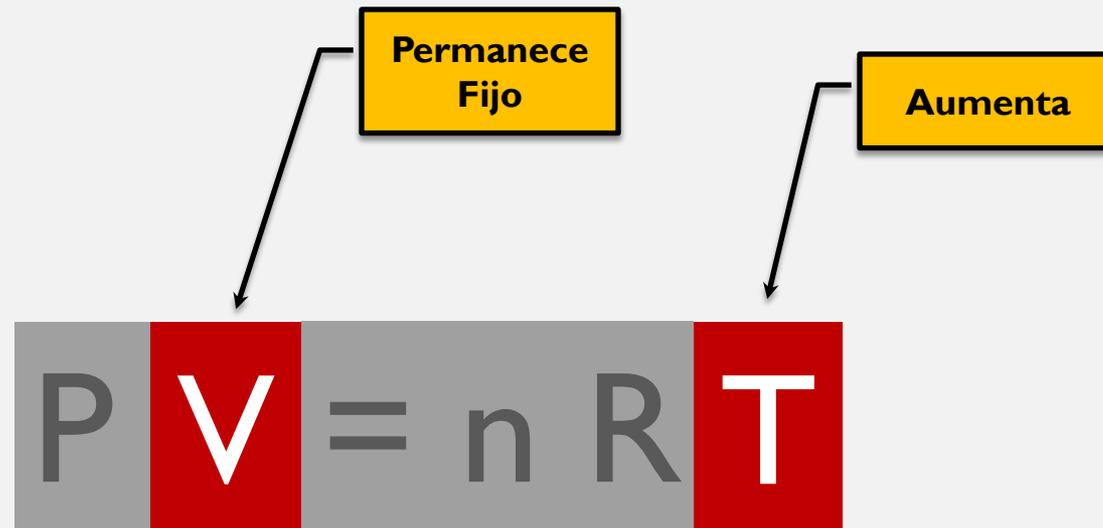




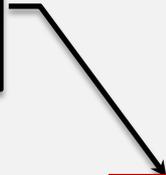


The diagram shows the ideal gas law equation  $PV = nRT$ . The variables  $P$ ,  $V$ ,  $=$ ,  $n$ , and  $R$  are displayed in a grey rectangular background. The variable  $T$  is displayed in a red rectangular background. A yellow box with the word "Aumenta" (Increases) is positioned above the  $T$  term, with a black arrow pointing from the box to the  $T$  term.

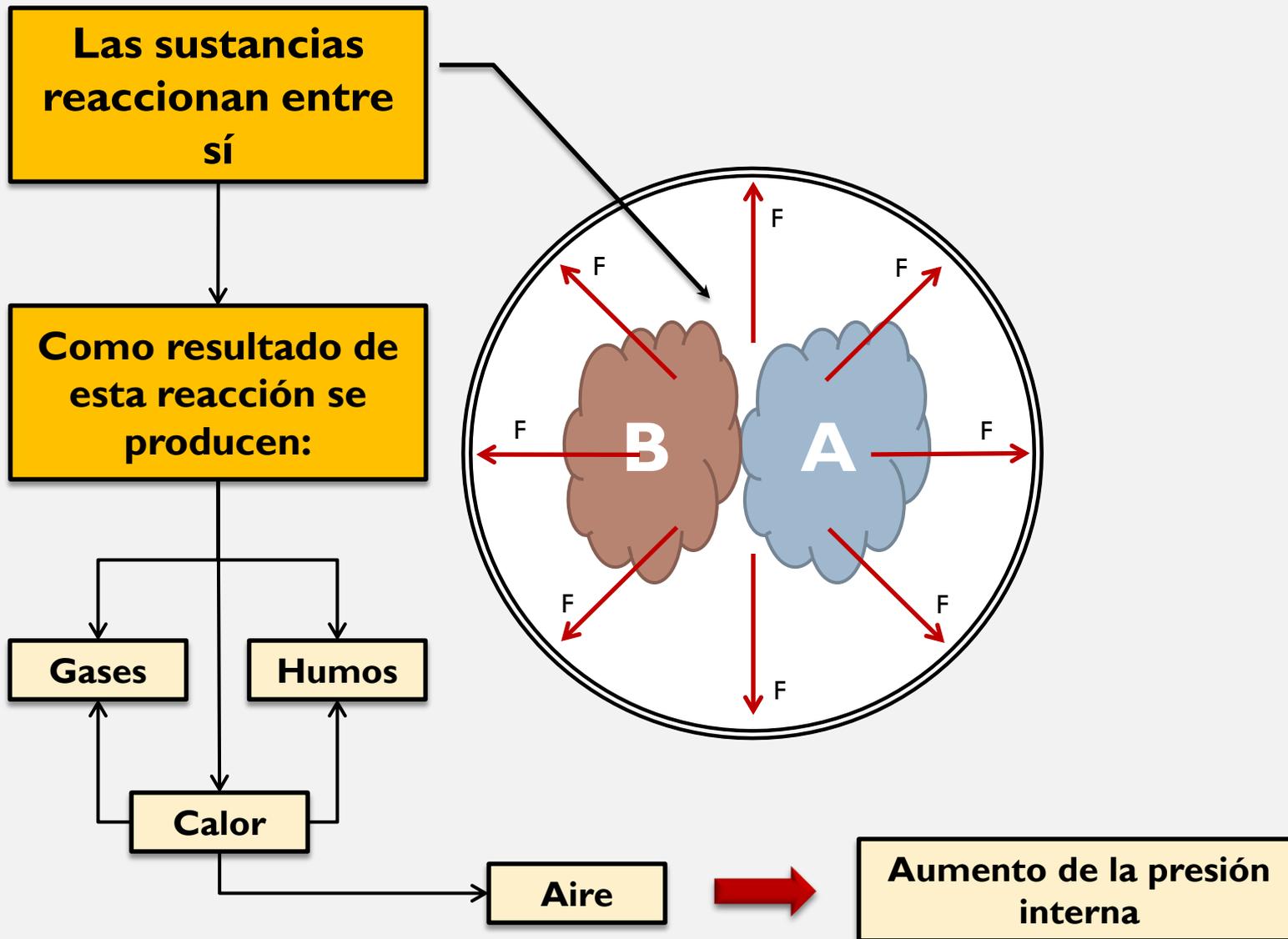
$$P V = n R T$$

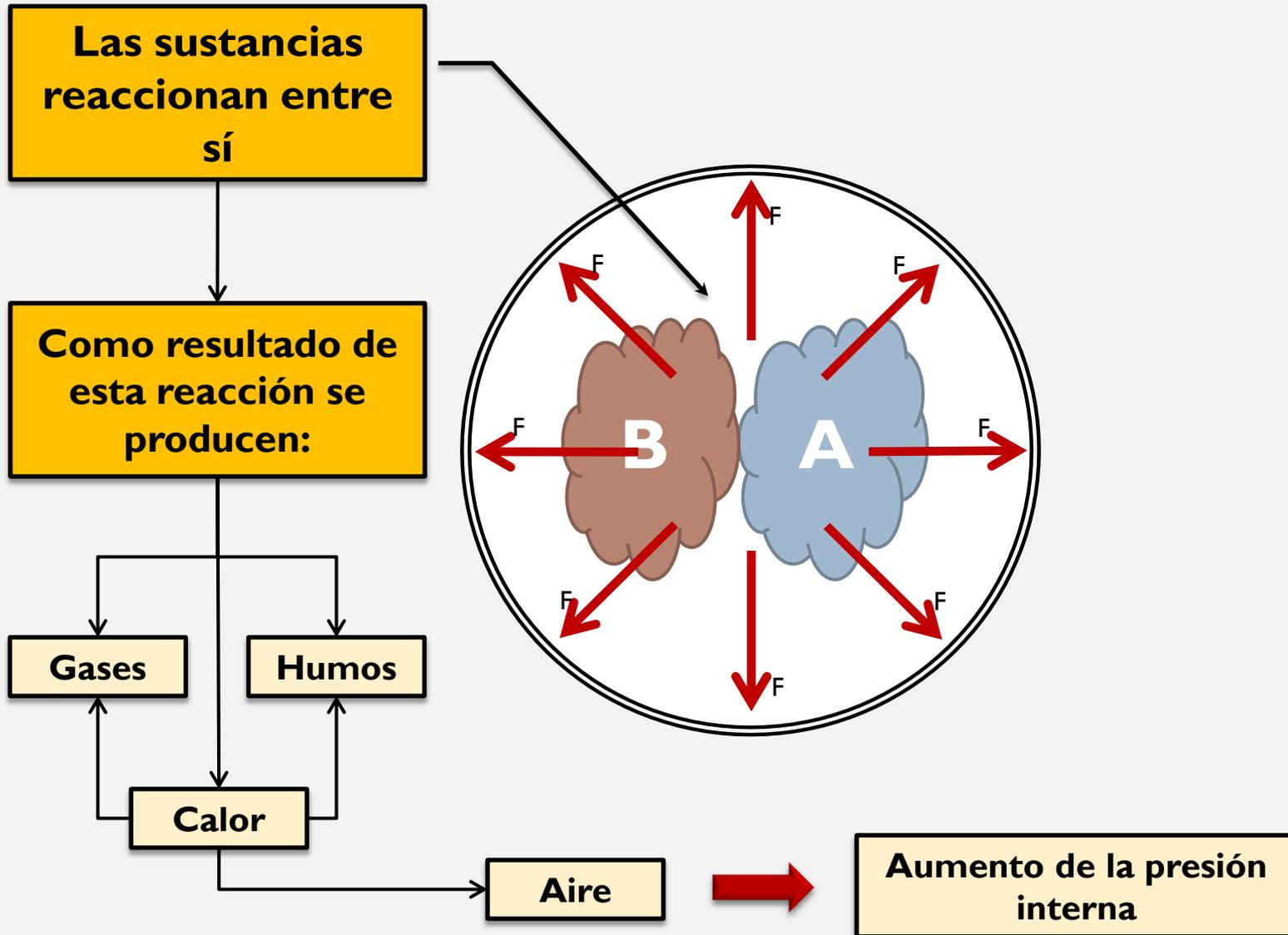


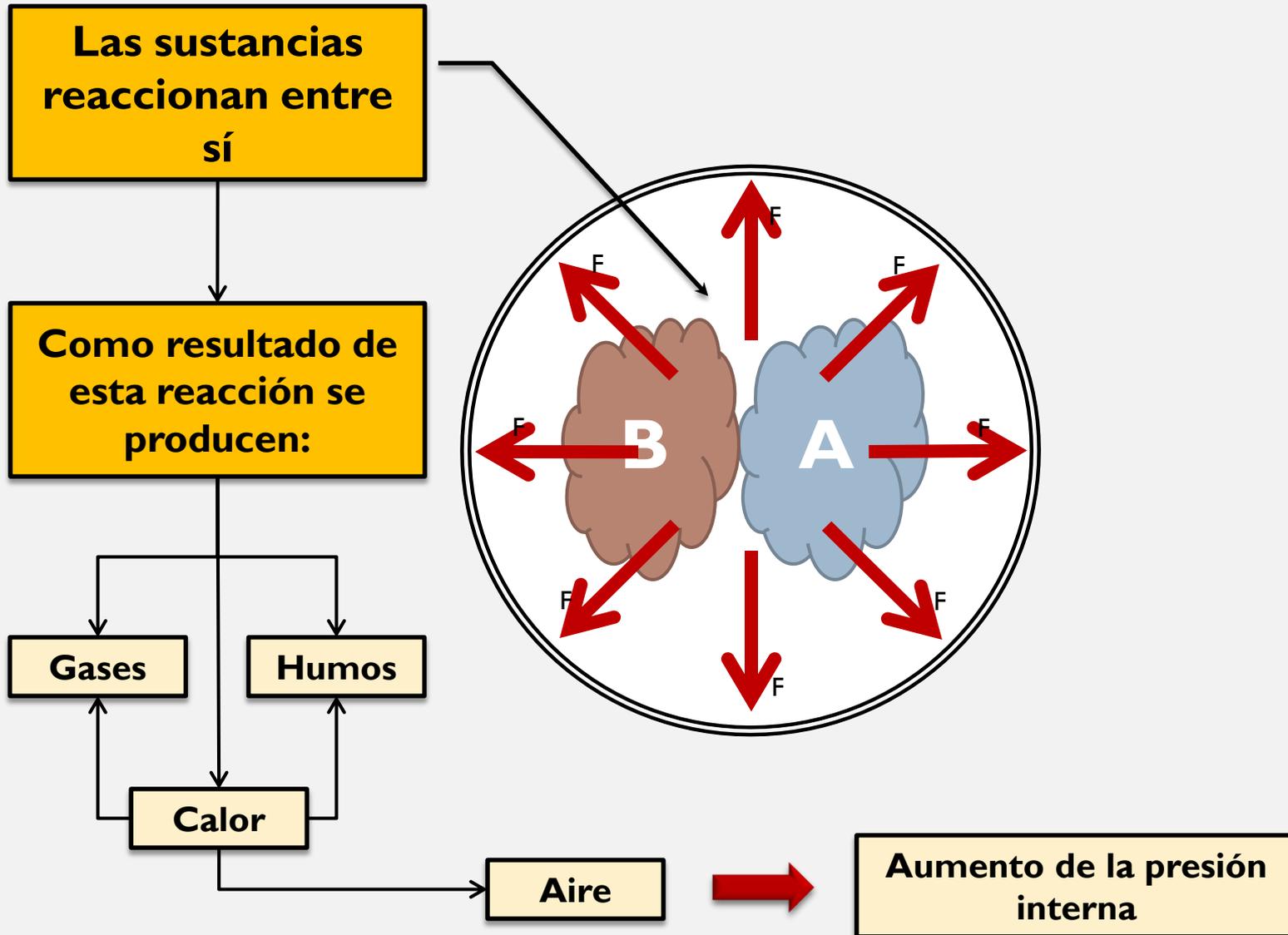
Aumenta

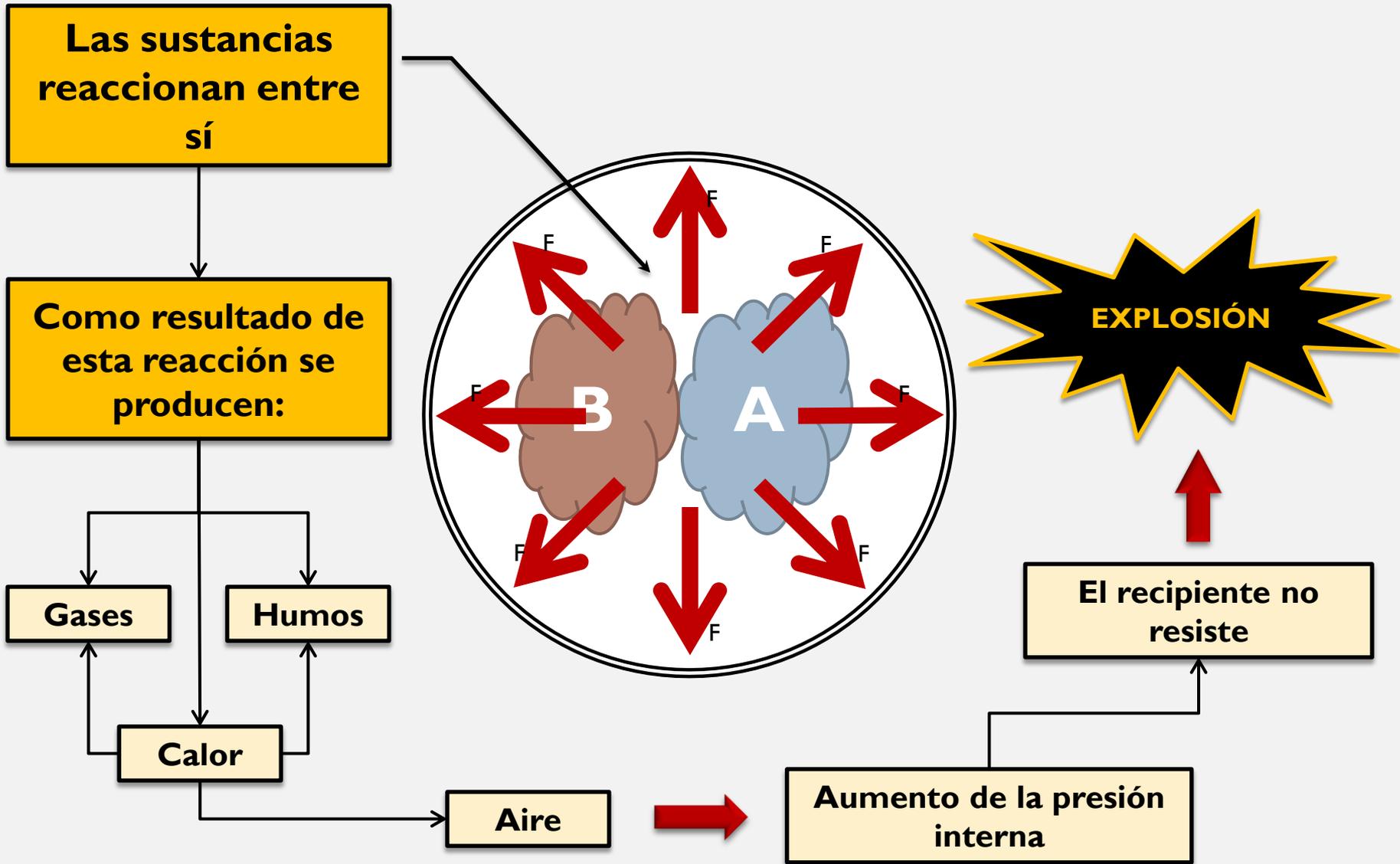


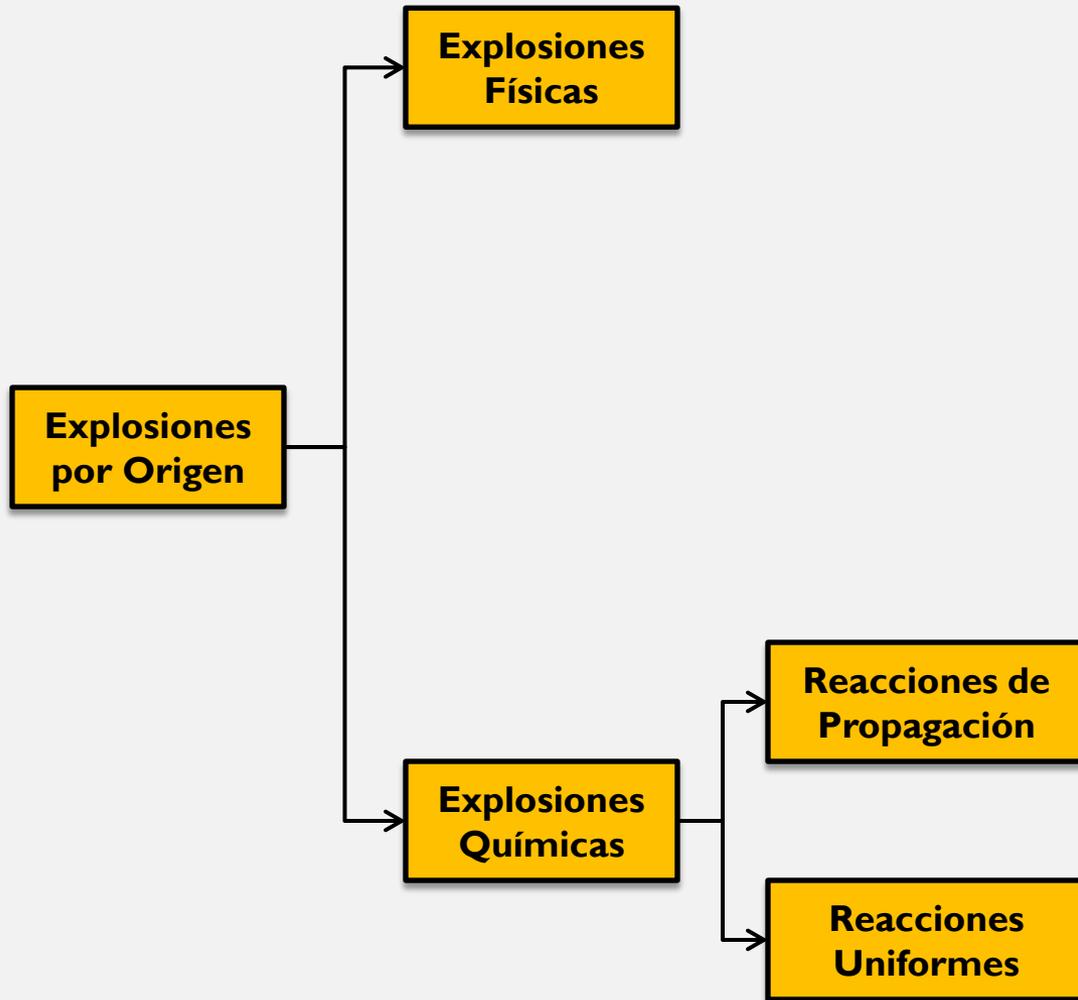
$$P V = n R T$$

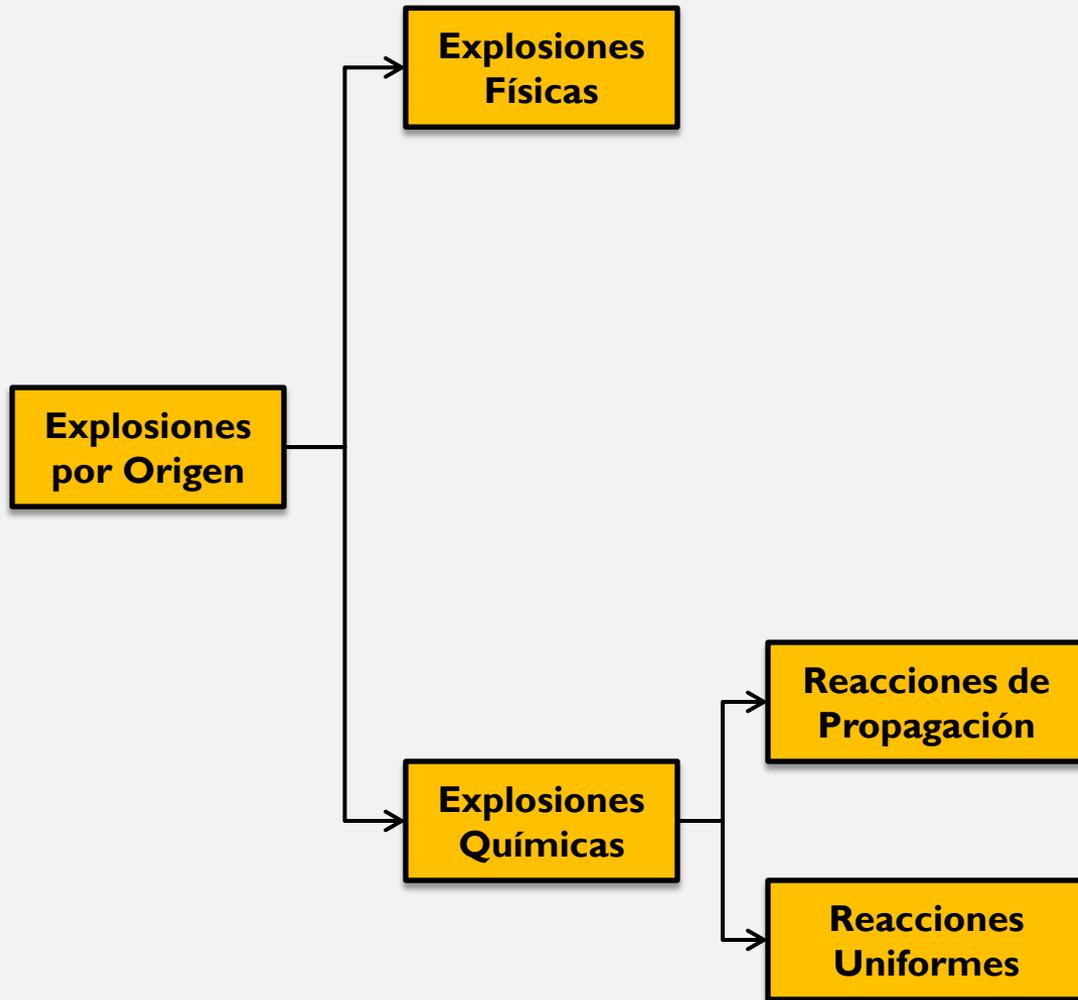


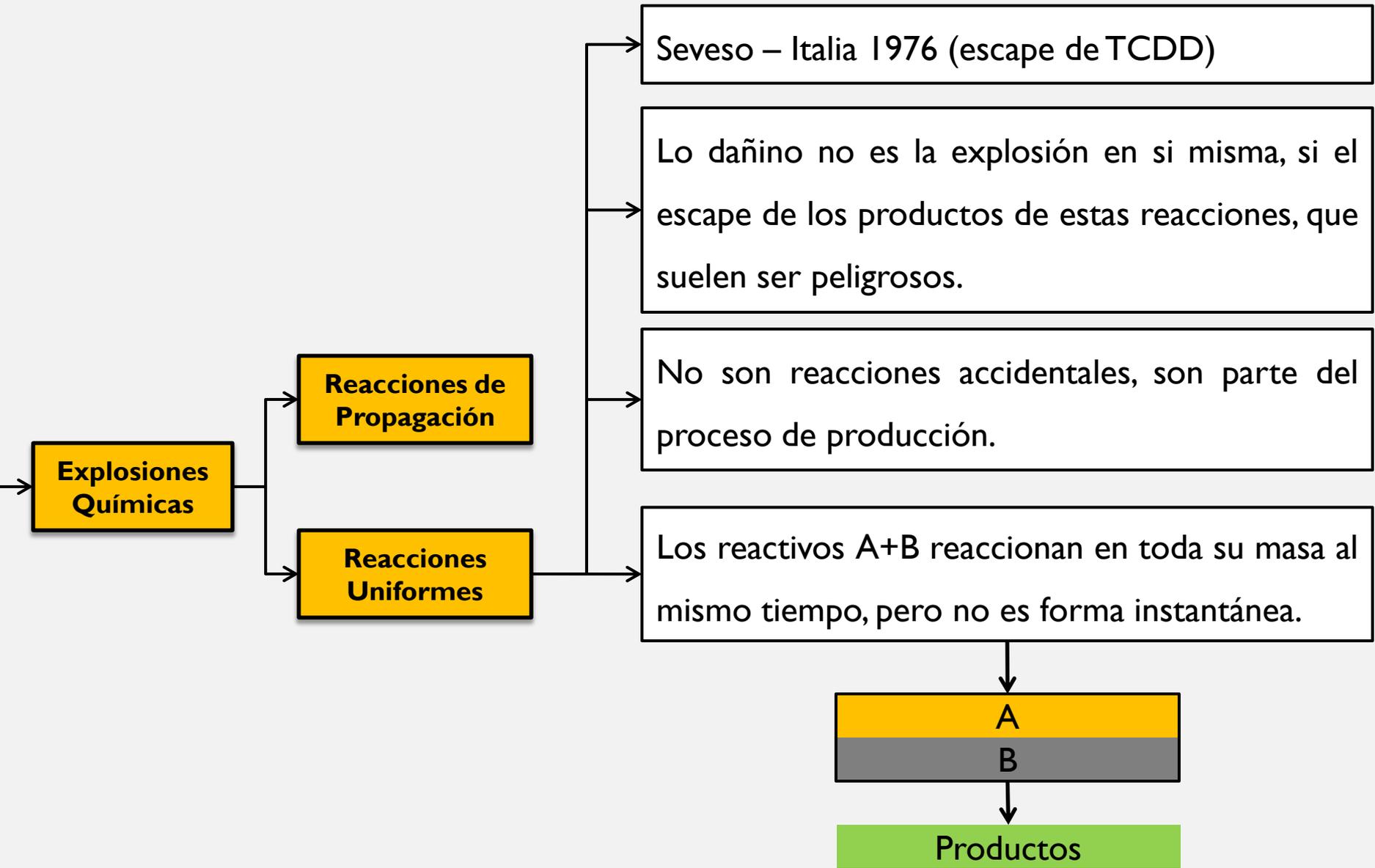


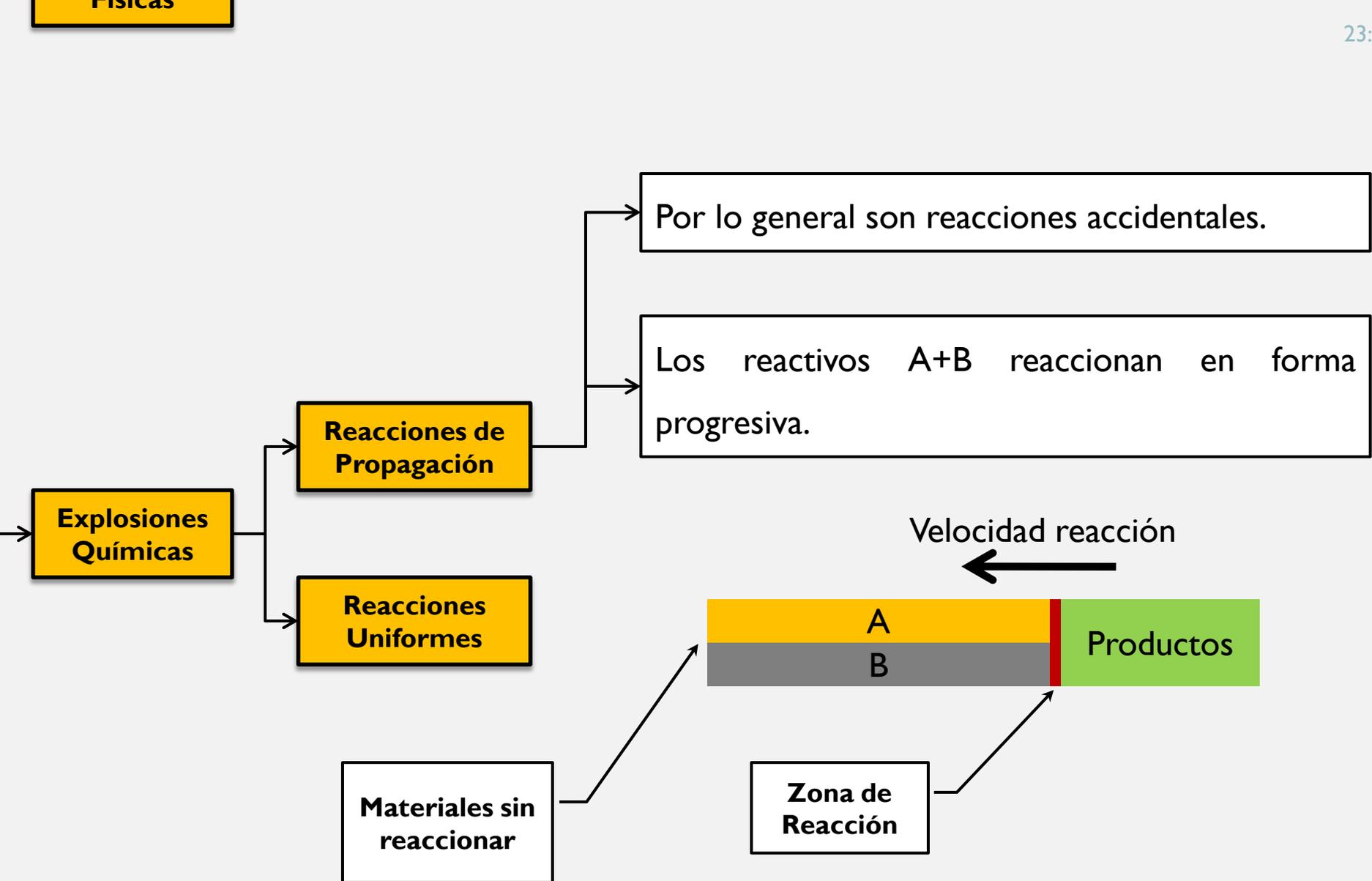


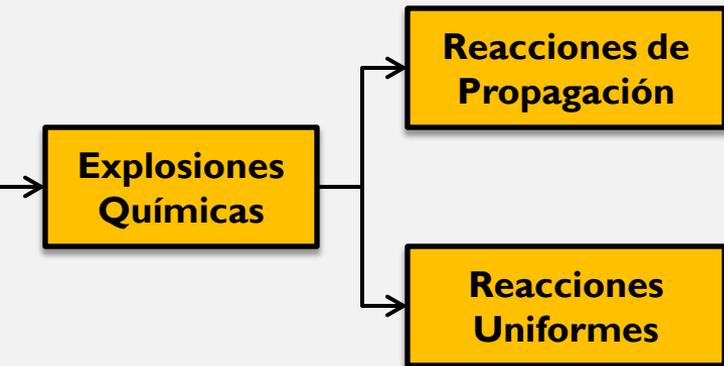


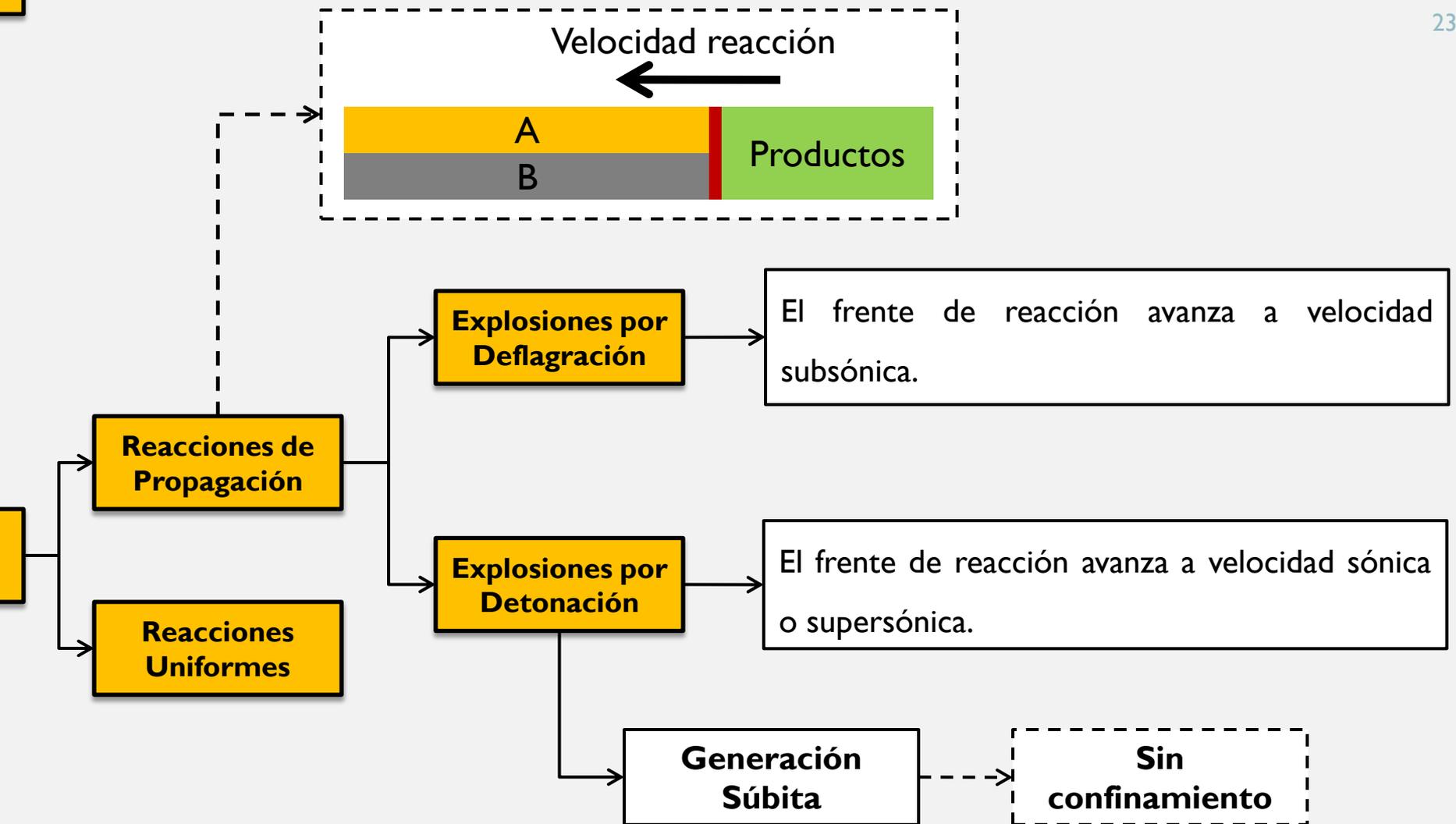


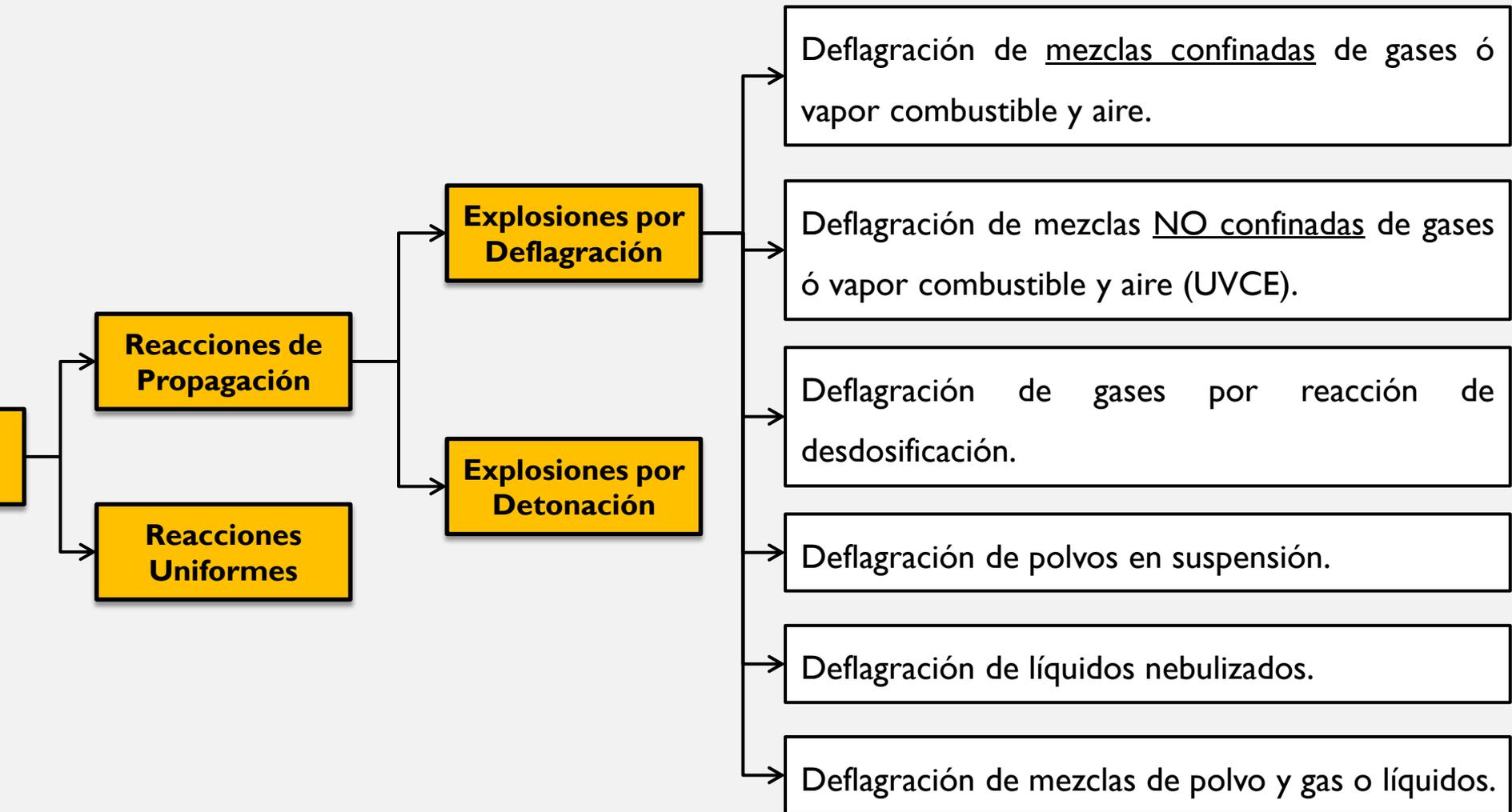






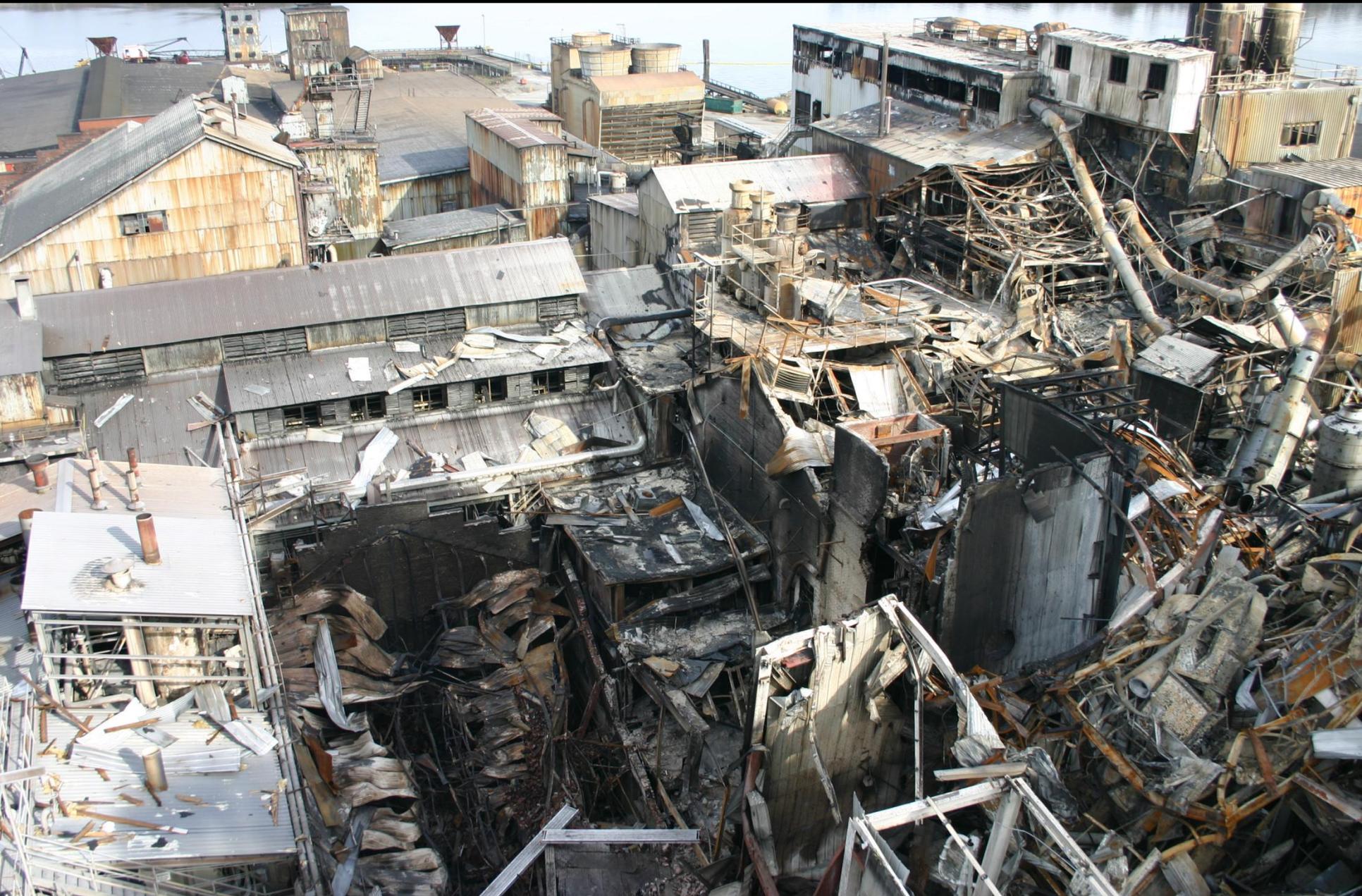






# Explosión de Azúcar en Polvo Imperial Sugar - Georgia – EEUU (2008)

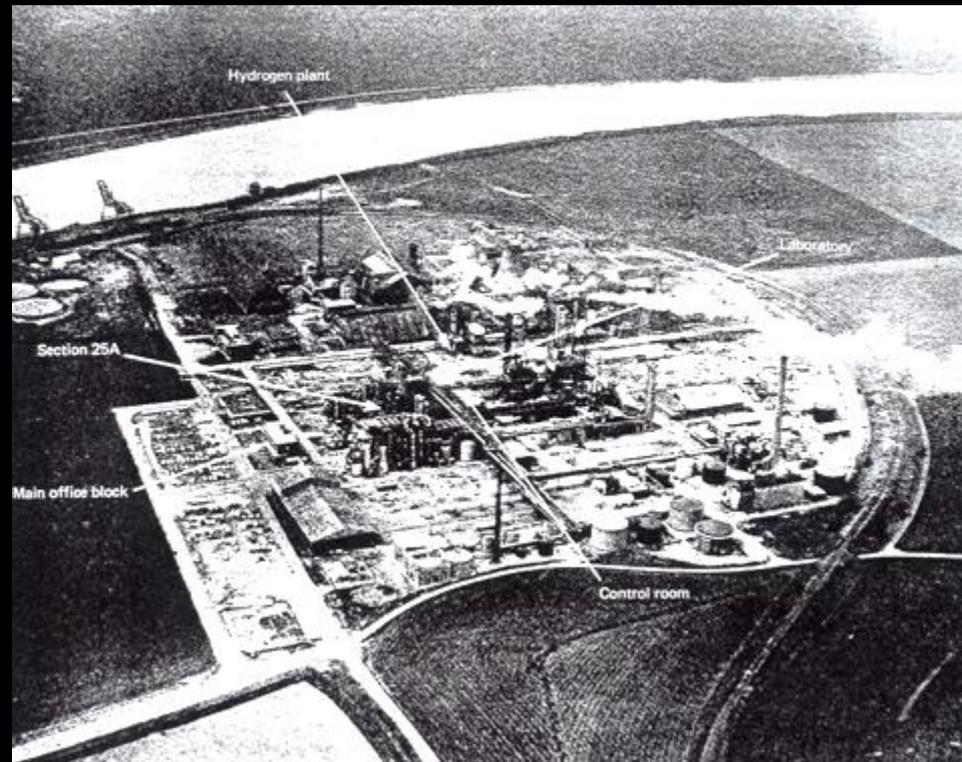


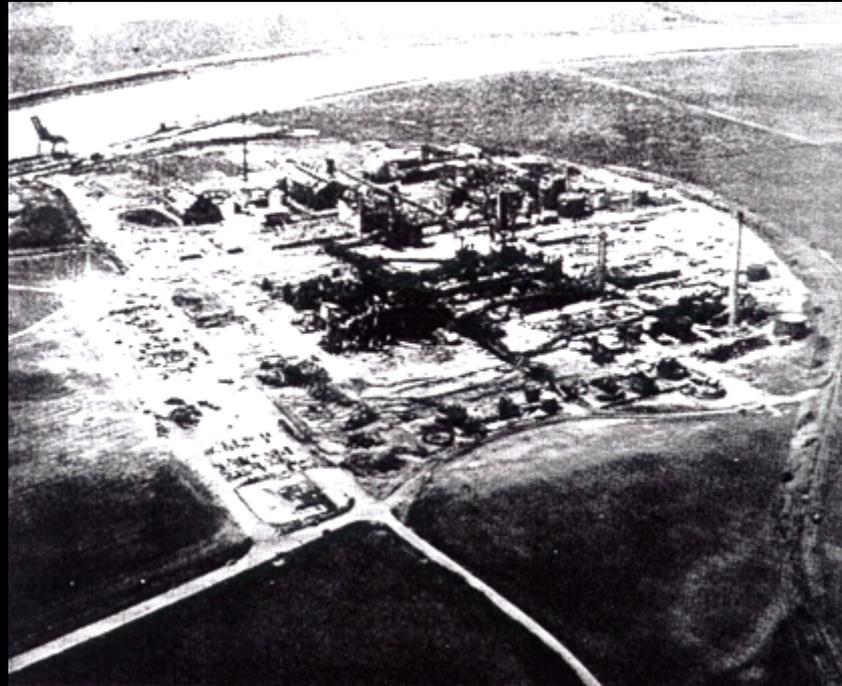


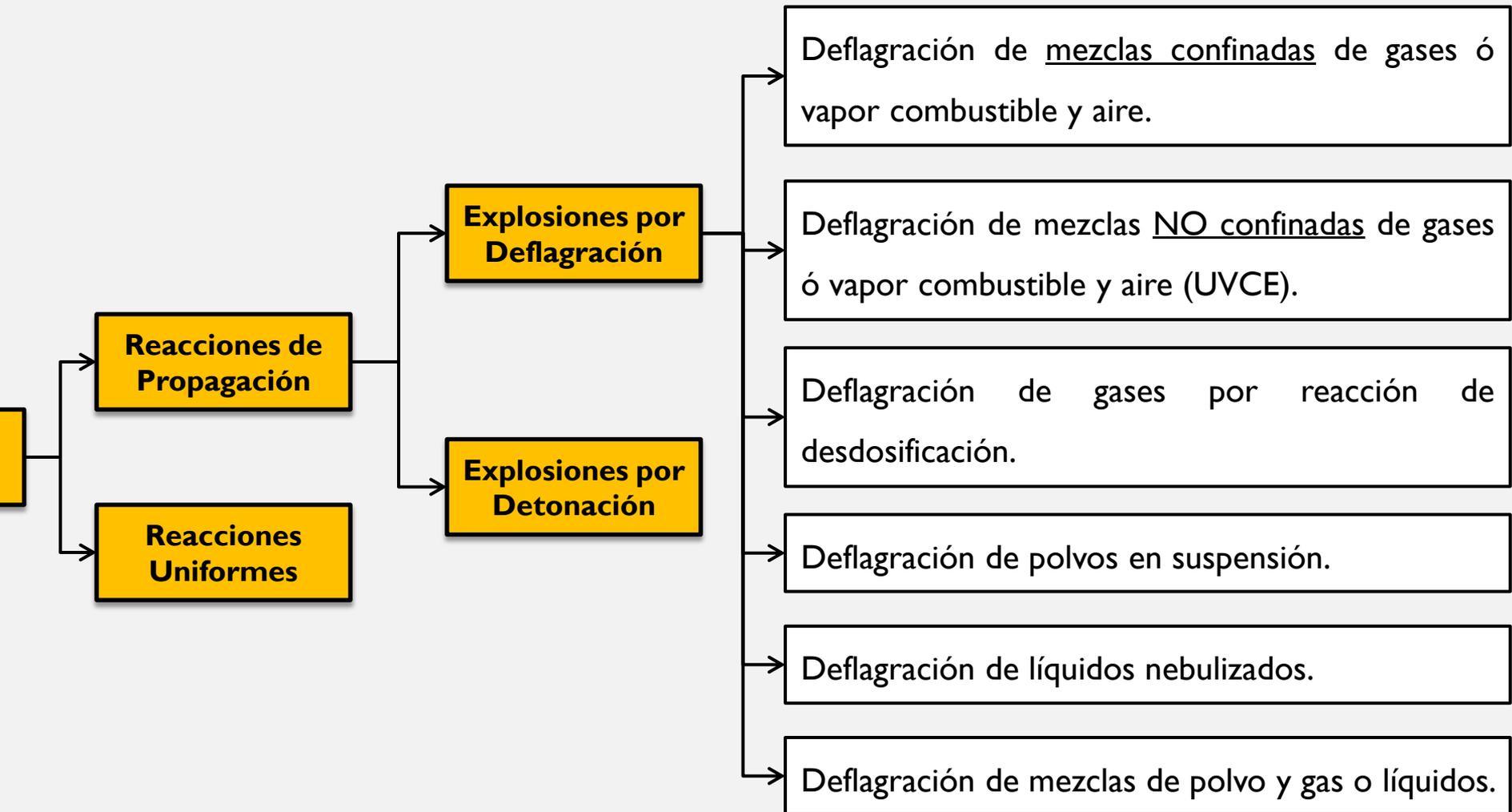


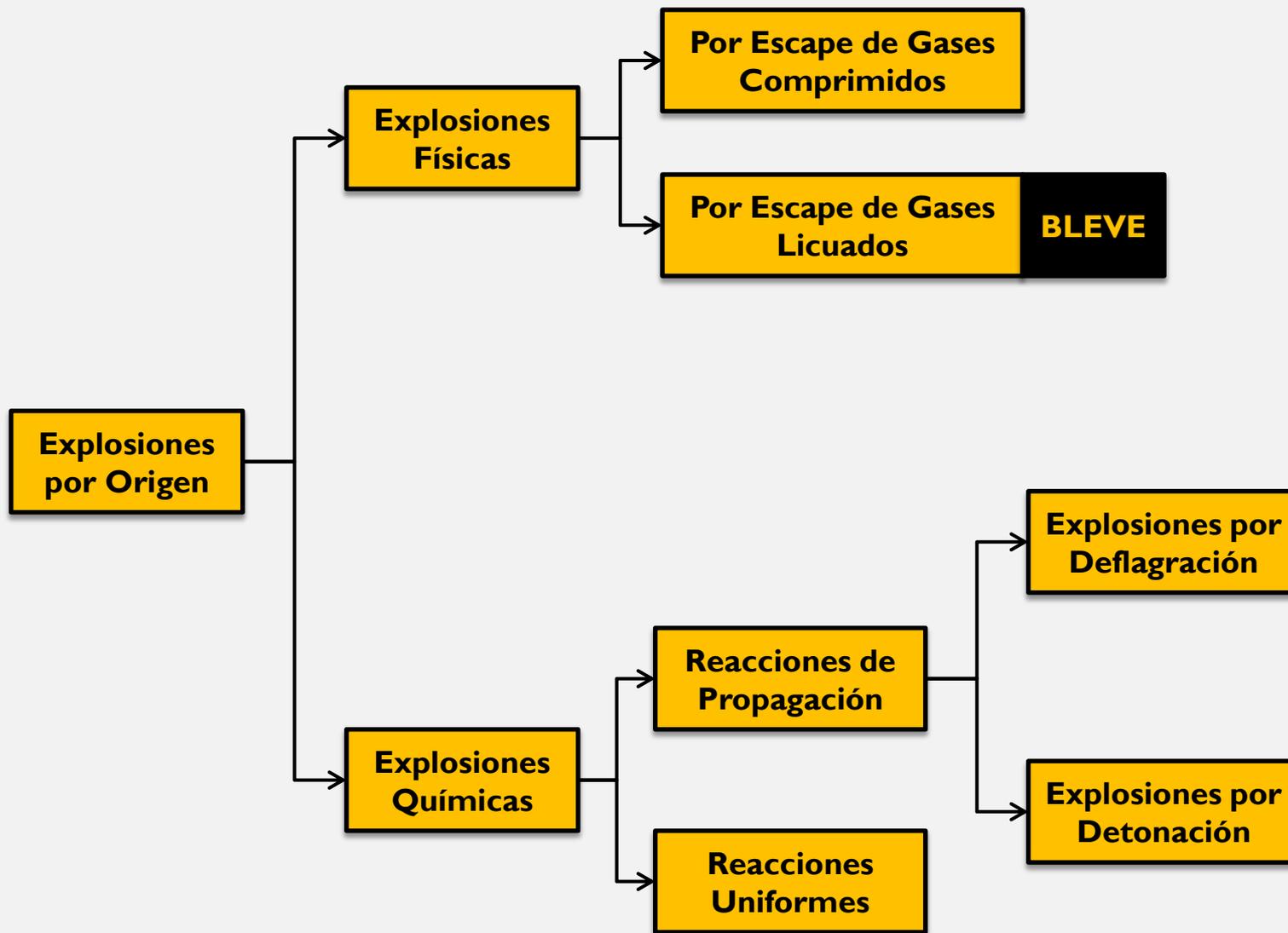
# Accidente de Flixborough, Reino Unido, 1974

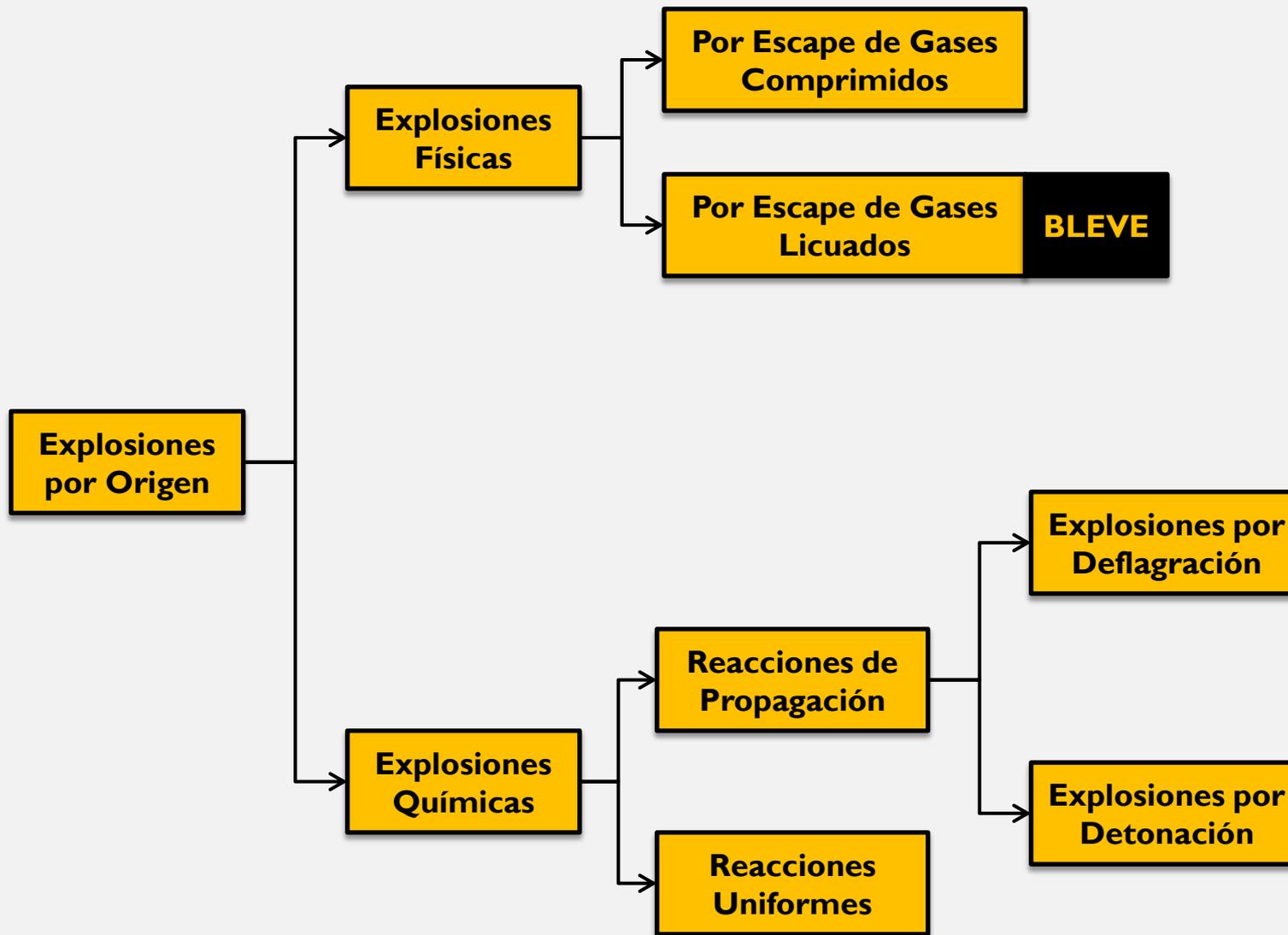
## Explosión de vapor no confinada (UVCE).

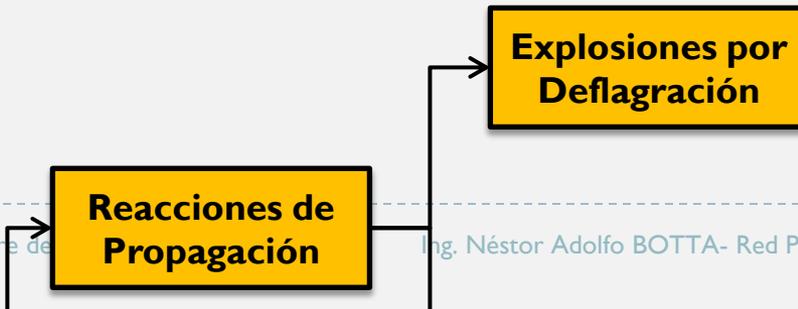
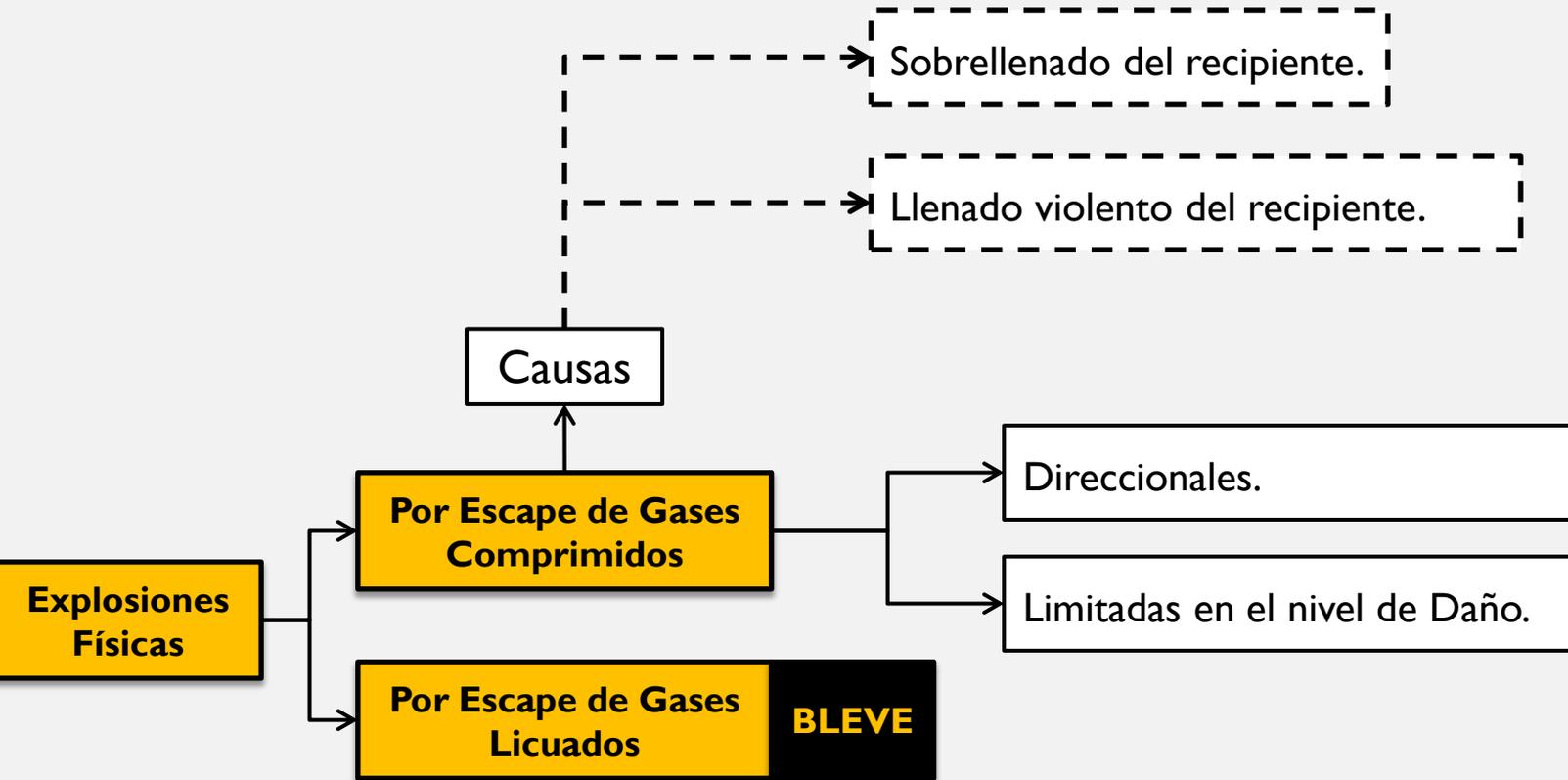












## Explosión de Tanque de GNC







## Explosión de Carro Extintor

LA MITAD DEL EXTINTOR  
NO SE ENCONTRO.

30 11:06 PM





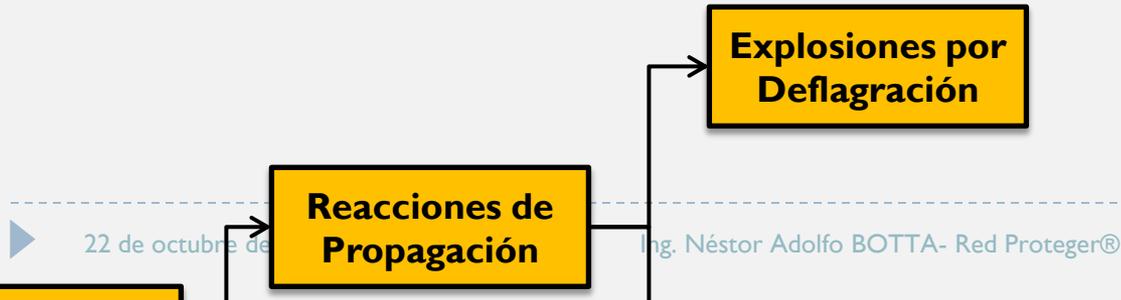
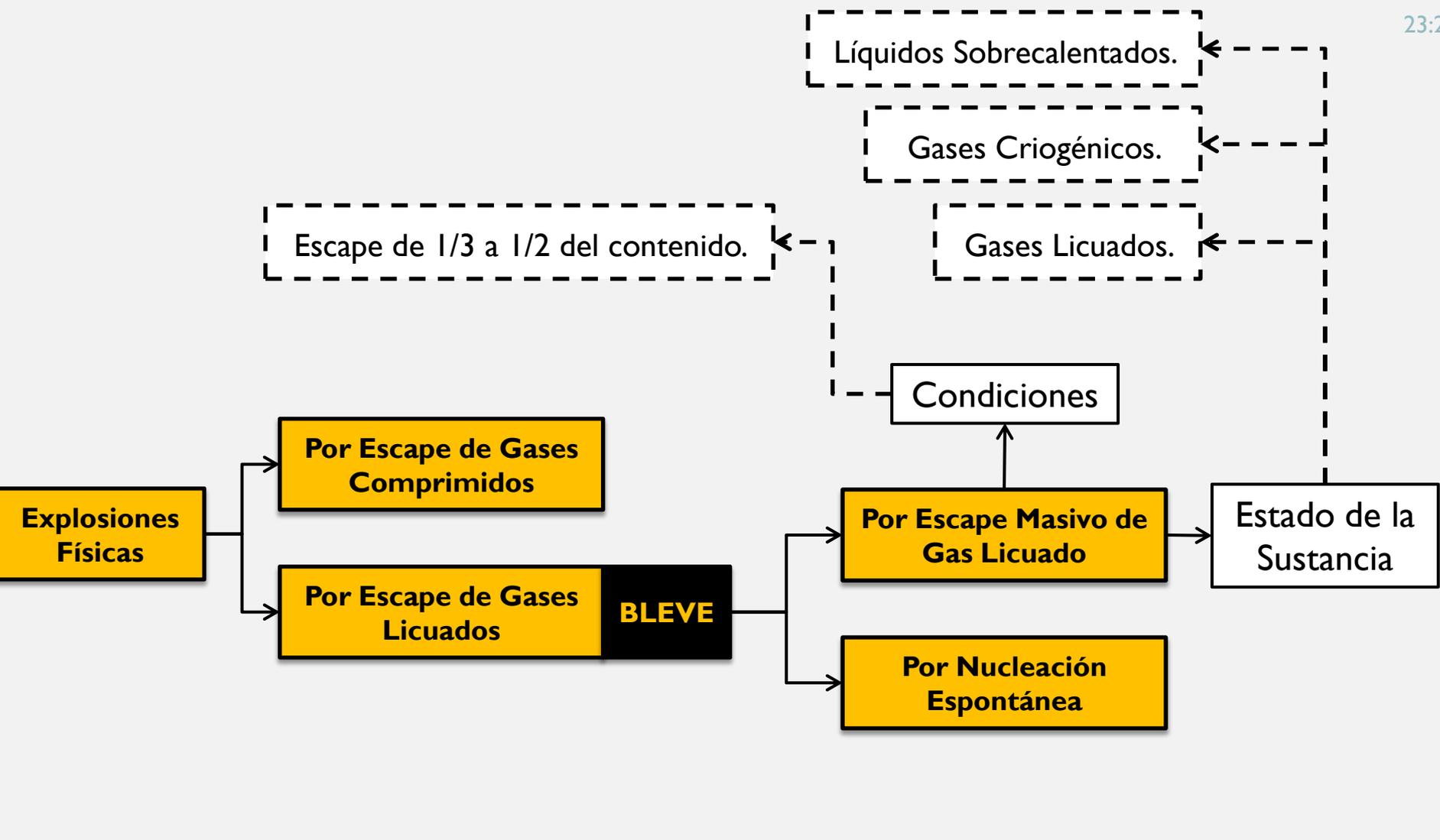
30 11:03 PM



**CILINDRO SIN  
NITROGENO CON  
REGULADOR**

**CILINDRO UTILIZADO  
DURANTE EL TRABAJO  
SIN REGULADOR**

**30 11:01 PM**



TODA la masa de gas licuado HIERVE en forma instantánea.

Despresurización violenta. Que puede suceder con el recipiente sano.

Condiciones

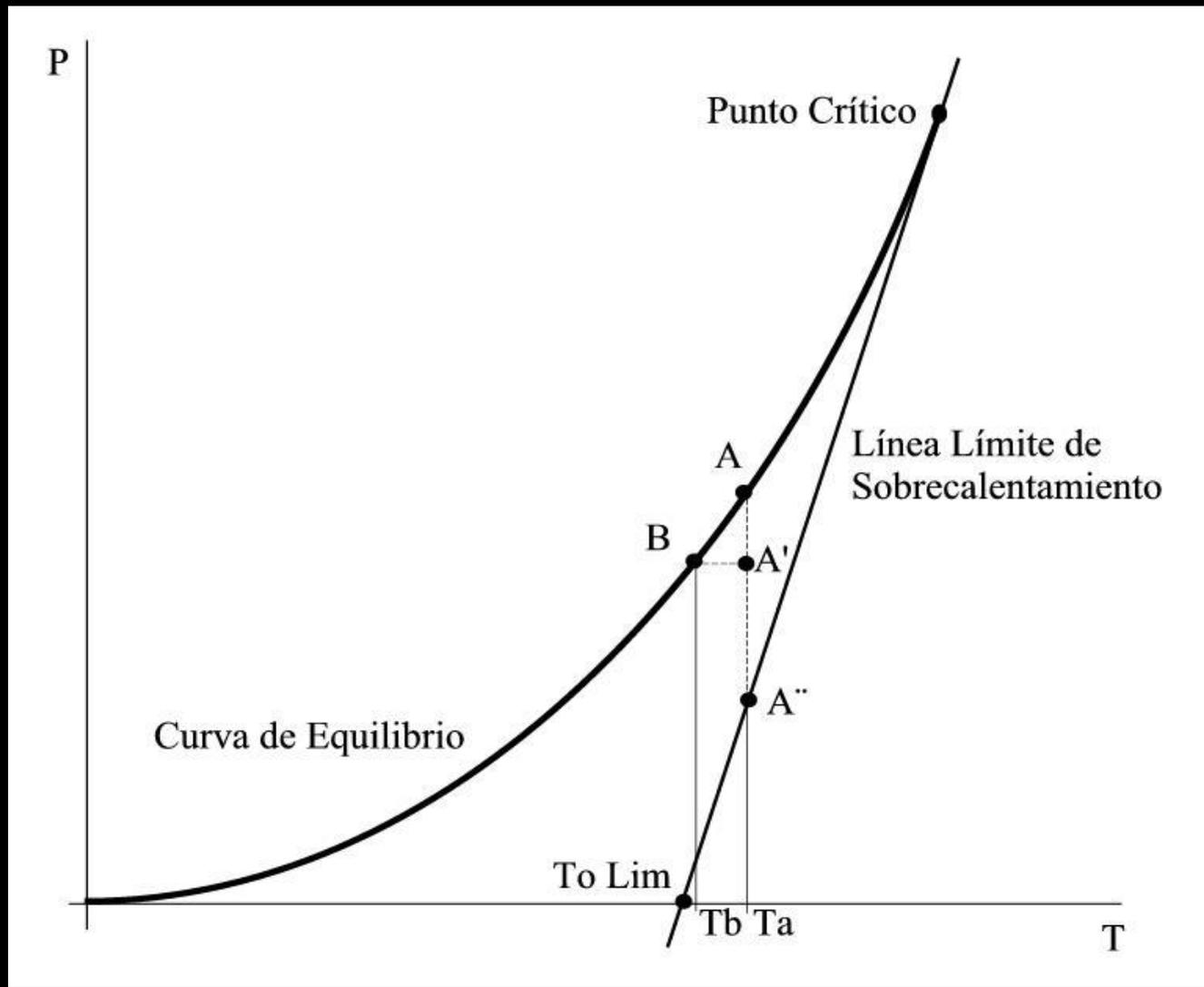
Explosiones Físicas

Por Escape de Gases Licuados **BLEVE**

Por Nucleación Espontánea

Explosiones por Deflagración

Reacciones de Propagación

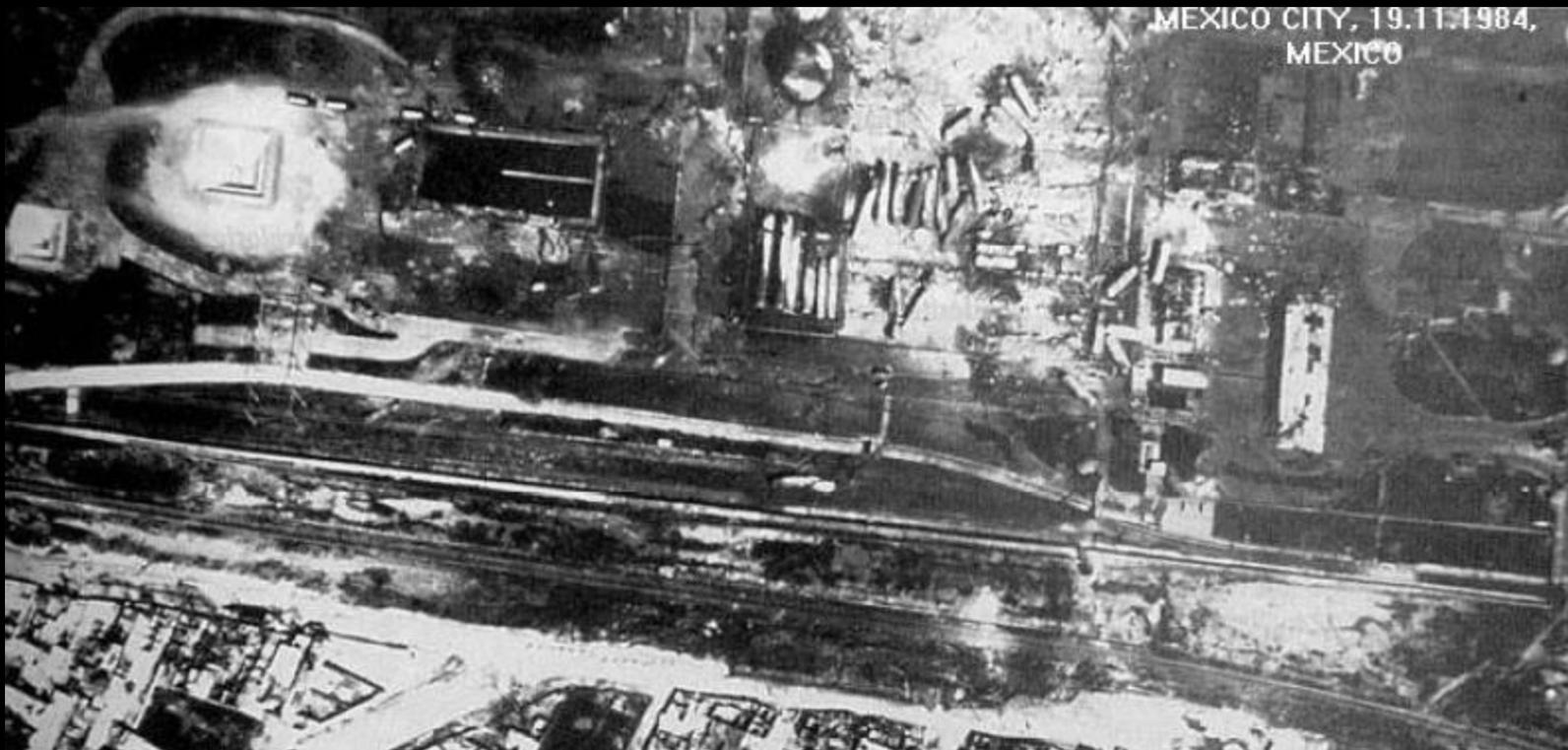


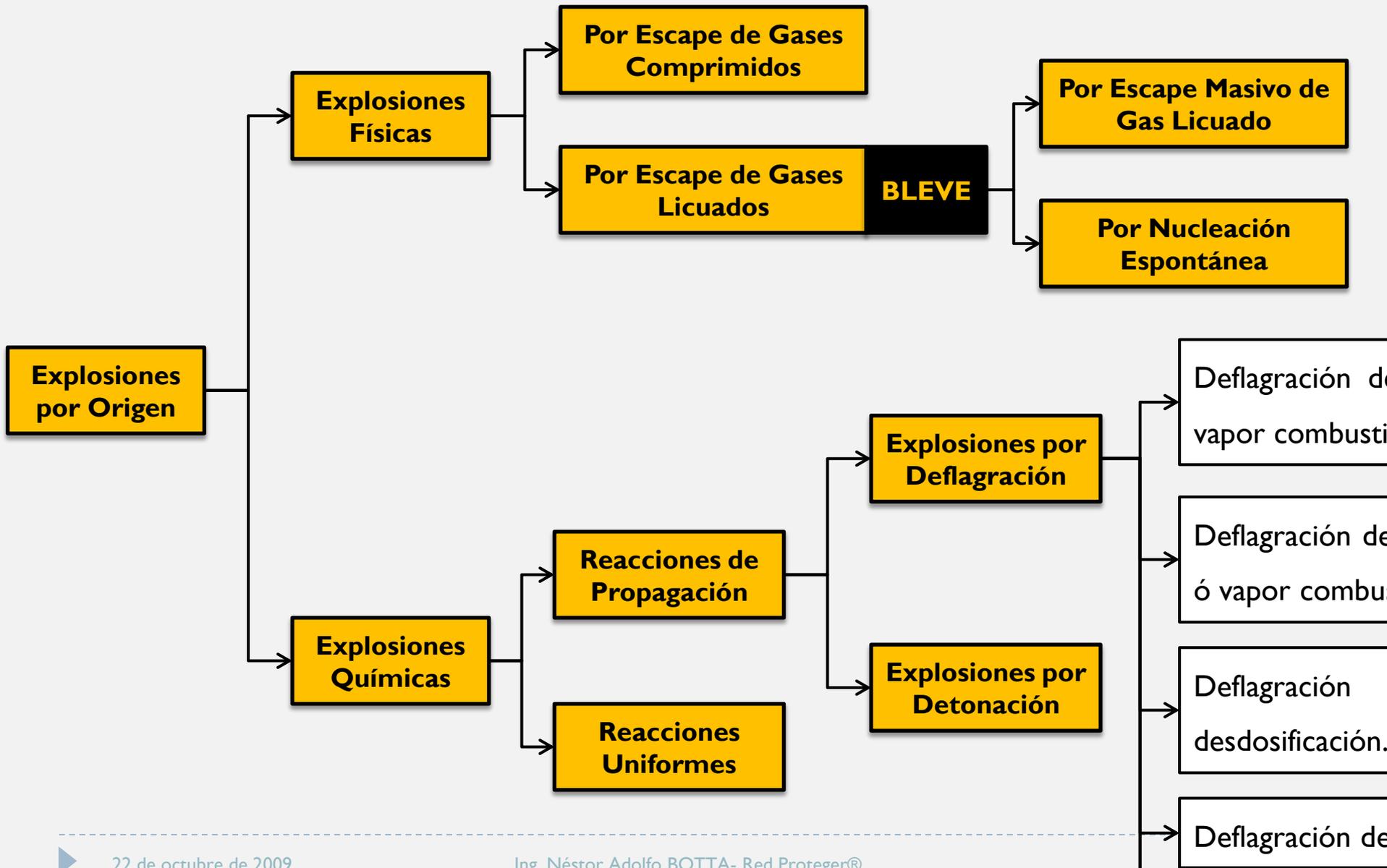
## BLEVE - San Juanico – México (1984)

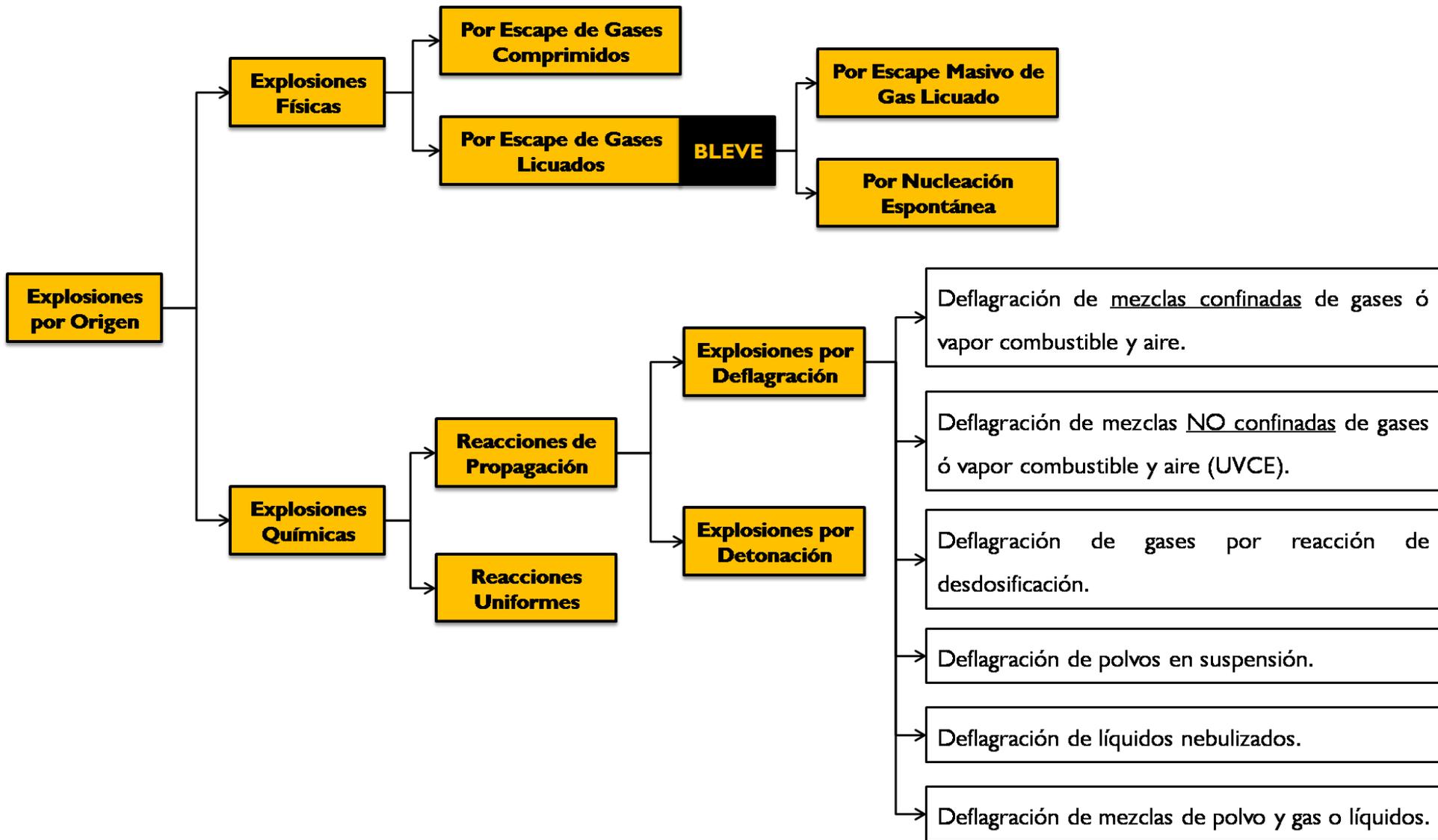












# Fin