

3. 분해 반응

(1) 제1류위험물 분해 → 산소

과망간산칼륨 240°C 열분해식 : $2\text{KMnO}_4 \rightarrow \text{K}_2\text{MnO}_4 + \text{MnO}_2 + \text{O}_2$

과염소산칼륨 610°C 열분해식 : $\text{KClO}_4 \rightarrow \text{KCl} + 2\text{O}_2$

삼산화크롬 열분해식 : $4\text{CrO}_3 \rightarrow 2\text{Cr}_2\text{O}_3 + 3\text{O}_2$

염소산칼륨 400°C 열분해식 : $2\text{KClO}_3 \rightarrow \text{KClO}_4 + \text{KCl} + \text{O}_2$

염소산칼륨 540~560°C 완전분해식 : $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$

중크롬산칼륨 열분해식 : $4\text{K}_2\text{Cr}_2\text{O}_7 \rightarrow 4\text{K}_2\text{CrO}_4 + 2\text{Cr}_2\text{O}_3 + 3\text{O}_2$

중크롬산암모늄 열분해식 : $(\text{NH}_4)_2\text{Cr}_2\text{O}_7 \rightarrow \text{Cr}_2\text{O}_3 + \text{N}_2 + 4\text{H}_2\text{O}$

질산칼륨 열분해식 : $2\text{KNO}_3 \rightarrow 2\text{KNO}_2 + \text{O}_2$

질산암모늄 열분해식 : $2\text{NH}_4\text{NO}_3 \rightarrow 2\text{N}_2 + 4\text{H}_2\text{O} + \text{O}_2$

과산화나트륨 열분해식 : $\text{Na}_2\text{O}_2 \rightarrow 2\text{Na}_2\text{O} + \text{O}_2$

(2) 제6류위험물 분해 → 산소

과산화수소 분해식 : $2\text{H}_2\text{O}_2 \rightarrow 2\text{H}_2\text{O} + \text{O}_2$

과염소산 분해식 : $\text{HClO}_4 \rightarrow \text{HCl} + 2\text{O}_2$

질산 열분해식 : $4\text{HNO}_3 \rightarrow 4\text{NO}_2 + 2\text{H}_2\text{O} + \text{O}_2$

(3) 그 외 분해

니트로글리세린 열분해식 : $4\text{C}_3\text{H}_5(\text{ONO}_2)_3 \rightarrow 6\text{N}_2 + 12\text{CO}_2 + 10\text{H}_2\text{O} + \text{O}_2$

메탄 분해식 : $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$

트리니트로톨루엔 분해식 : $2\text{C}_6\text{H}_2\text{CH}_3(\text{NO}_2)_3 \rightarrow 3\text{N}_2 + 12\text{CO} + 2\text{C} + 5\text{H}_2$