



Incineration of SHARPAK sharps containers

Taken from Croners WASTE MANAGEMENT (July 1995)
INCINERATOR OPERATION

Incineration plant (including pre-treatment equipment) must be designed, equipped and operated in such a way as to avoid, or at least minimise, environmental impact, complete incineration must be achieved and most appropriate means used to prevent or minimise adverse environmental effects.

The directive sets minimum temperatures which must be maintained when hazardous waste is being incinerated. For halogenated organic compounds, the gas resulting from combustion would have to remain at a temperature of 1100°C in the combustion chamber for at least two seconds in the presence of at least 6% oxygen. The minimum temperature for non-halogenated organic compounds is 850°C. Incinerators have to be equipped with:

- Auxiliary burners to ensure these minimum temperatures are maintained at all times,
- An automatic system to prevent the feeding off of hazardous waste whenever the minimum temperature is not achieved or when the limit values for emissions are exceeded.

RAW MATERIALS USED IN SHARPAK SHARPS CONTAINERS

Polypropylene and Polyethylene Materials

The various grades of materials used when incinerated at 850°C and above will most probably form water vapour, carbon dioxide and carbon monoxide. The result is dependant on the temperature, the excess of oxygen and the time. No heavy metals or compounds containing chlorine will be produced as these compounds are not present in any of the raw materials.

COLOUR MASTERBATCH

Yellow:

The colour masterbatch materials which are used consist of a pigment, carrier and anti-static agents. It is considered that the carrier and anti-static material will only give off water and oxides of carbon. In the case of the yellow, you may expect mainly carbon dioxide and carbon monoxide together with very much smaller quantities of hydrochlorides and oxides of nitrogen and sulphur (SO₂) all these splitting off at various temperatures between 400°C and 850°C and above. There are no heavy metals present but traces can be present as impurities. All pigments meet the limited values for the content of heavy metals defined as type 8081 but there will be some calcium formed.

Yellow:

The main decomposition products will be oxides of carbon (CO₂, CO) plus water vapour, with small quantities of nitrogen and sulphur dioxide the remaining ash will consist of clay with a very small residue of copper oxide coming from one of the yellows in the formulation. The decomposition products are there in very small quantities as the total pigmentation in the final article would be typically less than 0.5%.



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