# CIGARETTE PAPERS

# MODULE 1

# SUBSTANCE INFORMATION SHEET

# CIGARETTE PAPER

## General Information

### Uses

Cigarette papers are a complex part of each individual cigarette design. While the cigarette paper is only about 5% of the total tobacco rod weight, it influences the static smolder rate, ventilation, puff count, pressure drop and yield. Cigarette paper is composed of inorganic filler and cellulosic fiber. The most common inorganic filler is calcium carbonate. Most cigarette papers are white. Since no whiteners are added during manufacture, the filler and the fiber bleaching determine the whiteness of the finished paper. The filler holds the fibers apart, creating pores within the paper structure. Air permeability is a key paper specification governing smoke yield that results from the amount and size of the filler particles and the density (basis weight) of the paper sheet.

### Composition

A number of various cigarette papers have been evaluated. Table 1 summarizes the various ingredients from cigarette papers that were disclosed by the vendors.

Table 1

| INGREDIENT | CAS | E-number |
|---|---|---|
| Beta-cyclodextrin | 7585-39-9 | E459 |
| Calcium carbonate | 471-34-1 | E170 |
| Caramel color | 8028-89-5 | E150 |
| Carboxymethyl-cellulose and its sodium salt | 9004-32-4 | E466 |
| Cellulose | 9004-34-6<br>65996-61-4 | n/a |
| Citric acid | 77-92-9 | E330 |
| Glycerol | 56-81-5 | E422 |
| Guar gum | 68411-94-9<br>9000-30-0 | E412 |
| Hydroxyethylcellulose | 9004-62-0 | n/a |
| Methylcellulose | 9004-67-5 | E461 |
| Potassium citrate | 6100-05-6 | E332 |
| Potassium hydroxide | 1310-58-3 | E525 |
| Propylene glycol | 57-55-6 | E1520 |
| Sodium alginate | 9005-38-3 | E401 |

| | | |
|---|---|---|
| Sodium citrate | 6132-04-3<br>68-04-2 (sodium citrate anhydrous) | E331 |
| Sodium hydroxide | 1310-73-2 | E524 |
| Starch and/or modified starches | 9063-45-0<br>65996-62-5<br>65996-63-6<br>9005-25-8<br>55963-33-2 | n/a |
| Titanium dioxide | 13463-67-7 | E171 |

## Summary of the Toxicological Investigations on the Use of the Substance in Tobacco Products

### Smoke Chemistry

| Internal Studies | Level Tested ppm | Comment |
|---|---|---|
| Philip Morris | N/A | The effects of cigarette smoke produced by burning varius cigarette papers on smoke chemistry have been evaluated. |

### Neutral Red Uptake Assay (NRU)

| Internal Studies | Level Tested ppm | Comment |
|---|---|---|
| Philip Morris | N/A | The effects of cigarette smoke produced by burning varius cigarette papers on cytotoxicity have been evaluated by the Neutral Red Uptake assay. |

### AMES Assay

| Internal Studies | Level Tested ppm | Comment |
|---|---|---|
| Philip Morris | N/A | The effects of cigarette smoke produced by burning varius cigarette papers on the mutagenic response have been evaluated by the Salmonella reverse mutation assay. |

### Mouse Lymphoma Assay (MLA)

| Internal Studies | Level Tested ppm | Comment |
|---|---|---|
| Philip Morris | N/A | The effects of cigarette smoke produced by burning varius cigarette papers on the mutagenic response have been evaluated by the Mouse Lymphoma Assay |

## *In vivo* Micronucleus

| Internal Studies | Level Tested ppm | Comment |
|---|---|---|
| Philip Morris | N/A | The effects of cigarette smoke produced by burning varius cigarette papers on the clastogenic/aneugenic response have been evaluated by the in vivo Micronucleus Assay |

## Inhalation studies

| Internal Studies | Level Tested ppm | Comment |
|---|---|---|
| Philip Morris | N/A | The toxic effects of cigarette smoke produced by burning varius base tipping papers constituents or inks have been evaluated in a 90-day inhalation study. |