

### Title : TD/GC-MS Analysis Results of VOCs released from Tobacco wrapper adhesive

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Sample ID	GOSOKKI
Subjects/Materials	Tobacco wrapper adhesive

#### □ Summary

- TD/GC-MS analysis was performed to determine the VOCs that can be released from the Tobacco wrapper adhesive under the designated temperature condition (100°C for 10 min.).
- As a result, four analyte peaks response exceeding the cut-off limit were obtained and four compounds was identified.
- The identified candidate compounds are not classified as CMR and not expected to cause a significant increase in toxicity.

#### □ Materials and Method

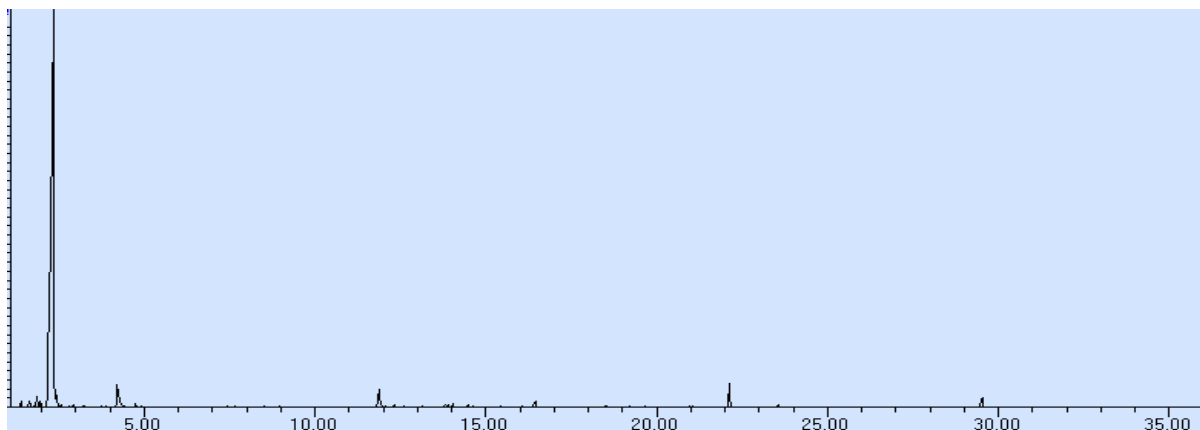
- Material information

Sample ID	Supplier
GOSOKKI	ANHEUNG

- Sample preparation & VOCs adsorption
  - The representative part of samples is weighed and prepared (0.05 g~0.1 g).
- Peak identification
  - Assessment of similarity between deconvoluted mass spectrum of peak and NIST mass spectrum library

#### □ Results

- Chromatogram of the tested samples



## □ Safety information

— Library Safety information for identified compounds

Compound name	CAS No.	Safety information
Acetic acid	64-19-7	<ul style="list-style-type: none"> <li>○ H226: Flammable liquid and vapor [Warning Flammable liquids]</li> <li>○ H314: Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]</li> <li>○ EU Food Improvement agents</li> <li>○ JECFA Functional Classes: Flavouring agents_Food additives, acidity regulator, preservative</li> <li>○ JECFA number: 81</li> <li>○ FEMA Flavor: 2006</li> <li>○ EPA safer choice: verified to be of low concern (Green circle)</li> <li>○ FDA (EAFUS) GRAS 21 CFR 172.814, 173,370</li> </ul>
Acetic anhydride	108-24-7	<ul style="list-style-type: none"> <li>○ H226: Flammable liquid and vapor [Warning Flammable liquids]</li> <li>○ H302: Harmful if swallowed [Warning Acute toxicity, oral]</li> <li>○ H314: Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]</li> <li>○ H332: Harmful if inhaled [Warning Acute toxicity, inhalation]</li> <li>○ FDA Substances added to food</li> </ul>

## Safety Assessment Report

		<ul style="list-style-type: none"> <li>○ Category: food starch-modified</li> <li>○ Workers inhalation, long term exposure DNEL: 4.2 mg/m<sup>3</sup></li> <li>○ General population inhalation, long term exposure DNEL: no hazard</li> </ul>
Propylene Glycol	57-55-6	<ul style="list-style-type: none"> <li>○ EPA safer choice: verified to be of low concern (Green circle)</li> <li>○ EU Food additives: carrier solvent, glazing agent, humectant</li> <li>○ JECFA Functional classes: food additives</li> <li>○ Cosmetics: humectant, skin conditioning, viscosity controlling</li> <li>○ Workers inhalation, long term exposure DNEL: 168 mg/m<sup>3</sup></li> <li>○ General population inhalation, long term exposure DNEL: 50 mg/m<sup>3</sup></li> <li>○ FEMA No. 2940</li> </ul>
Ethyl Acetate	141-78-6	<ul style="list-style-type: none"> <li>○ H225: Highly Flammable liquid and vapor [Danger Flammable liquids]</li> <li>○ H319: Causes serious eye irritation [Warning Serious eye damage/eye irritation]</li> <li>○ H336: May cause drowsiness or dizziness [Warning Specific target organ toxicity, single exposure; Narcotic effects]</li> <li>○ EU Food Improvement agents</li> <li>○ JECFA Functional Classes: Flavouring agents_Food additives, Carrier solvent</li> <li>○ JECFA number: 27</li> <li>○ FEMA Flavor: 2414</li> <li>○ FDA (EAFUS) GRAS 21 CFR 172.560/172.859/173.228/175.320/177.1200</li> </ul>