

WCO Regional Customs Laboratory Professionals Programme (2024/25)
Examples of areas and goods and their analysis methods trainees can study
at the Regional Customs Laboratory (RCL) in India, Japan or the Republic of Korea

In relation to Chapter 6. (1) of Annex III (Areas and Goods of Interest for Customs Analysis), examples of areas and goods and their analysis methods are shown, for your reference, in the table below. Areas and goods and their analysis methods will be adjusted during the programme, according to the detailed information on the trainees' needs and actual situation of each RCL.

Please be noted that the aim of this program is to obtain and update knowledge and skills for the chemical analysis of samples **for the Harmonized System (HS) classification purposes**.

No.	Areas and Goods	Analysis Methods
1	Milk preparation	<ul style="list-style-type: none"> - Quantification of fat content (Röse Gottlieb method) - Identification of fat (GC) <triglycerides, esterification> - Quantification of ash and moisture - Quantification of crude protein (Kjeldahl method, Dumas method) - Quantitative analysis of sugars (HPLC)
2	Cocoa content	<ul style="list-style-type: none"> - Determination of theobromine and caffeine (HPLC)
3	Fats	<ul style="list-style-type: none"> - Quantification of fat content (Soxhlet Extraction Method, Röse Gottlieb method) - Identification of fat (GC) <triglycerides, esterification> - Determination of mixing ratio of mixed fats (GC)
4	Oils	<ul style="list-style-type: none"> - Measurement of acid value (Titration Method) - Quantitative Analysis of Vitamin E (HPLC) - Quantitative Analysis of Erucic Acid in Rape Oil (GC)
5	Sugar	<ul style="list-style-type: none"> - Quantification (HPLC, TLC) - Determination of direct reducing sugar and total sugar (Rane-Eynon Method)
6	Starch	<ul style="list-style-type: none"> - Starch identification (SEM, OM) - Starch content (modified Ewers polarimetric method) - Identification of modified starch
7	Alcohol	<ul style="list-style-type: none"> - Quantitative analysis of alcoholic strength - Quantification of aroma component for Rum
8	Inorganic materials	<ul style="list-style-type: none"> - Determination of elemental composition (XRF) - Identification of crystal structure (XRD) - Determination (SEM) e.g. Artificial corundum, graphite
9	Ore	<ul style="list-style-type: none"> - Determination of element (XRF, XRD)
10	Alloy	<ul style="list-style-type: none"> - Quantitative analysis (XRF, ICP-AES)
11	Organic surface-active agent	<ul style="list-style-type: none"> - Extraction of surfactant - Qualitative analysis of surfactant (IRS) - Colour test for surfactant - Measurement of surface tension

12	Polymer and Rubber	<ul style="list-style-type: none"> - Quantitative analysis (NMR) - Quantitative analysis (FT-IR) - Rubber test (Elongation test, recovery test) - Degree of polymerization (NMR)
13	Wax	<ul style="list-style-type: none"> - Dropping Point - Rotational viscosity - Qualitative analysis (GC) - Differentiate natural wax and artificial wax (GC)
14	Analysis of drugs	- (Confidential)
