BUREAU OF INDIAN STANDARDS

BANGALORE BRANCH LABORATORY

13/06/2016

Subject: Comments on IS 546:2014

This bears reference to the Indian Standard Specifications for edible oils published in 2014. While going through IS 546:2014, following observations have been made.

S. No.	Test requirement / Ref. cl.	Comments
1.	**5.4** Oils shall not contain aflatoxin, more than 30 µg/kg, when tested by the method prescribed in IS/ISO 14718 or as prescribed in Annex A.	1. Although the requirement for aflatoxin is given as quantitative (30 µg/kg), the method given in Annex A of relevant ISS appears to be for checking the presence or absence. 2. Interpretation of results (Negative or positive) as given in cl.A-3.1 is not clear.
2	**5.8.1.2** The product shall not contain aflatoxin, more than 5 µg/kg, when tested by the method prescribed in IS/ISO 14718 or as prescribed in Annex A.	---do---
3.	**5.7**. Table 1(xi), Hexane, in case of Solvent extracted Refined Mustard Oil	1. The requirement for Hexane in the ISSs given is 5. 00 ppm (mg/kg), Max. But as per last sentence of cl.B-1 (Annex B), the test method is suitable for determination of quantities of hexane between 10 and 1 500 mg/kg in fats and oils. 2. It is proposed the source of availability of reference vegetable oil, solvent free, cl.B-3.4 (required for spiking with hexane for determination of calibration factor) may also be specified in the ISSs. (Pl. see Note). 3. As per cl.B-**6.1 Determination of the Calibration Factor, in the table** (µl/5g v/s mg/100g), for the volume (µl) of Hexane added per 5 g of reference oil, the respective concentration (mg/100g) of Hexane in refined oil (spiked) does not appear to be correct. **Values in given table are:** Spiking of reference oil with Technical Hexane µl/5g 0.5 1 2 4 7 10 mg/100g 67 134 268 536 938 1340 Spiking of reference oil with n-Hexane µl/5g 0.5 1 2 4 7 10 mg/100g 66 132 264 528 924 1320 **However, correct values in 2nd row of table expressed as mg/100 g should be:** Spiking of reference oil with Technical Hexane µl/5g 0.5 1 2 4 7 10 mg/100g 6.7 13.4 26.8 53.6 93.8 134.0 Spiking of reference oil with n-Hexane

		µl/5g 0.5 1 2 4 7 10 mg/100g 6.6 13.2 26.4 52.8 92.4 132.0 It may please be noted that the **values in 2nd row** when converted to **mg/kg or ppm** (in order to align the same in accordance with the requirements of edible oil standards) will be as follow Spiking of reference oil with Technical Hexane µl/5g 0.5 1 2 4 7 10 mg/kg(ppm)67 134 268 536 938 1340 Spiking of reference oil with n-Hexane µl/5g 0.5 1 2 4 7 10 mg/kg(PPM) 66 132 264 528 924 1320 **The concentrations (mg/kg or ppm) prepared for making calibration curve are much more than the specified requirements (5.00 ppm or 5.00 mg/kg)**.
3.	**5.7.**Table 1(ix), Bellier turbidity temperature, °C	Requirement for Bellier turbidity temperature is mentioned as °C, **Max** but **with a range** (23.0 to 27.5) of temperature which is contradictory.

Since, edible oils are likely to be covered under PCS of BIS, Competent Authority may kindly consider the above facts for making necessary changes/amendment in the specifications as mentioned above.

S. K. Arora
Sc-B, OIC (QA & LRS)