

ARABIC GUM

HASHAB ACACIA SENEGAL

SCOPE

This Sudanese standard applies to Cleaned Grade gum arabic from *Acacia senegal* var. *senegal*

SYNONYMS

Gum arabic, hashab and Kordofan gum

DEFINITIONS

Gum arabic Cleaned gum is obtained from the stems and branches of *Acacia senegal* var. *senegal* (L). Willdenow (fam. leguminosae). It consists mainly of salts of an acidic arabino-galactan protein complex which on hydrolysis yields galactose, arabinose, rhamnose, glucuronic acid and 4-methoxy glucuronic acid

DESCRIPTION

Medium to small size modules and tears and broken piece of gum Arabic

FUNCTIONAL USES

Emulsifier, stabilizer, thickening and encapsulating agent and some other general and technical applications

STANDARD REQUIREMENTS

PHYSICAL CHARACTERISTICS

- Solubility** It's highly soluble in water, gives up to 50% solution and insoluble in ethanol
- Hydrolysis products** Passes test

CHEMICAL CHARACTERISTICS

 <p>LOSS ON DRYING NOT MORE THAN 15% (105C, 5H)</p> <p>TOTAL ASH NOT MORE THAN 4%</p> <p>NITROGEN CONTENT 0.24 TO 0.47%</p> <p>PROTEIN CONTENT 1.58 TO 2.7% (N X 6.6)</p> <p>ARSENIC NOT MORE THAN 3MG/KG</p>	<p>LEAD NOT MORE THAN 10MG/KG</p> <p>HEAVY METALS NOT MORE THAN 40MG/KG</p> <p>STARCH AND DEXTRIN PASSES TEST</p> <p>SPECIFIC ROTATION (X) (D 1-22°) TO (-34°)</p> <p>TANNIN - BEARING GUM FORMATION OF A BLACK PRECIPITATE INDICATES THE PRESENCE OF TANNIN</p>
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MICROBIOLOGICAL CRITERIA

- 1- *Salmonella* sp. Absent/g
- 2- *E. coli*. Absent/g

STORAGE

Preferably to be stored under clean, cool and dry conditions, in a properly constructed warehouse

PACKAGING

Multi-layered paper bag lined with polyethylene. capacity 50 — 25 kg

LABELLING

Should be clear and indicates

PRODUCT NAME	PRODUCING COMPANY	PRODUCT GRADE	NET WEIGHT (KG)	STORAGE CONDITIONS
ARABIC GUM TALHA GUM	BRAND NAME		KG	

SHELF LIFE

Unlimited under the appropriate storage conditions mentioned in section 9

TESTING

Sampling and testing should be carried out according to SDS 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 166, 157, 158, 159 and 160.

*test carried out on dry basis

REFERENCES

- Anderson, D. M. W.; Gargutt, S. and Zaidi, S.S.H. (1963). *Anal. Chem. Acta*, 29, 39.
- Anderson, D. M. W.; Ashby, P.; Busuttil, A.; Kempson, S.A. and Lawson, M.E. (1984). *Toxicol. Letters*, 21, 83.
- Anderson, D. M. W. (1986). Nitrogen conversion factor for the proteinaceous content of gums permitted as food additives; *Food Addit. Contam.*, 3, 231-234.
- Anderson, D. M. W. and McDougall, R.J. (1987). *Food Hydrocolloids*, 1, 327. FAO. (1990). *Food and Nutrition Paper No. 34*.
- Hassan, E. A. (2000). Characterization and Fractionation of *Acacia senegal* gums. Ph.D. Thesis, University of Khartoum.
- Osman, M.E.; Williams, P.A.; Menzies, A.R. and Phillips, G.O. (1993). *J. Agric. Food Chem.* 41, 71.
- Menzies, A.R.; Osman, M.E., Malik, A.A. and *Food Addit. Contam.*, 13, 91

TECHNICAL COMMITTEE

ORGANIZATIONS PARTICIPATING IN THE TECHNICAL COMMITTEE NO. 4 ARE REPRESENTED BY

- UNIVERSITY OF KHARTOUM.
- FOOD RESEARCH CENTER.
- THE GUM ARABIC COMPANY.
- KHARTOUM GUM ARABIC PROCESSING COMPANY.
- MINISTRY OF INDUSTRY AND INVESTMENT.
- MINISTRY OF AGRICULTURE AND FORESTRY — MEMBER NOT NOMINATED
- SUDANESE STANDARD AND METROLOGY ORGANIZATION

ARABIC GUM

KIBBLED GRADE

SCOPE

This Sudanese standard applies to kibbled gum arabic from *Acacia senegal* var. *senegal*

SYNONYMS

Gum arabic, hashab and Kordofan gum

DEFINITIONS

Gum arabic kibbled gum is the crushed form of the dried exudate obtained from the stems and branches of *Acacia senegal* var. *senegal* (L) Willdenow (fam. leguminosae). It consists mainly of salts of an acidic arabino-galactan protein complex which on hydrolysis yields galactose, arabinose, rhamnose, glucuronic acid and 4-methoxy glucuronic acid

DESCRIPTION

Gum arabic (*Acacia senegal*) kibbled form Mesh size ranging from 8 to 0.5 mm

FUNCTIONAL USES

Emulsifier, stabilizer, thickening and encapsulating agent and some other general and technical applications

STANDARD REQUIREMENTS

PHYSICAL CHARACTERISTICS

- Solubility** It is highly soluble in water, gives up to 50% solution and insoluble in ethanol
- Hydrolysis products** Passes test

CHEMICAL CHARACTERISTICS

 <p>LOSS ON DRYING NOT MORE THAN 15% (105C, 5H)</p> <p>TOTAL ASH NOT MORE THAN 4%</p> <p>NITROGEN CONTENT 0.24 TO 0.41%</p> <p>PROTEIN CONTENT 1.58 TO 2.7% (N X 6.6)</p> <p>ARSENIC NOT MORE THAN 3MG/KG</p>	<p>LEAD NOT MORE THAN 10MG/KG</p> <p>HEAVY METALS NOT MORE THAN 40MG/KG</p> <p>STARCH AND DEXTRIN PASSES TEST</p> <p>SPECIFIC ROTATION ([α]_D²⁰) TO (-34°)</p> <p>TANNIN - BEARING GUM PASSES TEST</p>
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MICROBIOLOGICAL CRITERIA

- 1- *Salmonella* sp. Absent/g
- 2- *E. coli*. Absent/g

STORAGE

Preferably to be stored under clean, cool and dry conditions: in a properly constructed warehouse

PACKAGING

Multi-layered paper bag lined with polyethylene. capacity 50 — 25 kg

LABELLING

Should be clear and indicates

PRODUCT NAME	PRODUCING COMPANY	PRODUCT GRADE	NET WEIGHT (KG)	STORAGE CONDITIONS
ARABIC GUM TALHA GUM	BRAND NAME		KG	

SHELF LIFE

Unlimited under the appropriate storage conditions mentioned in section 9

TESTING

Sampling and testing should be carried out according to SDS 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 166, 157, 158, 159 and 160.

*Test carried out on dry basis

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