भारतीय मानक **IS 18522 : 2023**

Indian Standard

पशु आहार घटक के रूप में विलायक निष्कर्षित सरसों और तोरिया के बीज की खली (भोजन) — विशिष्टि

Solvent Extracted Mustard and Rapeseed Oilcake (Meal) as Livestock Feed Ingredient — Specification

ICS 65.120

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
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November 2023 **Price Group**

Animal Feeds and Nutrition Sectional Committee, FAD 05

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Animal Feeds and Nutrition Sectional Committee had been approved by the Food and Agriculture Division Council.

India is one of the largest producers of mustard and rape seeds in the world. The chief producing areas in the country of mustard and rape seeds are Rajasthan, Uttar Pradesh, Haryana, Madhya Pradesh and Gujarat. The vegetable oil derived from the seeds of rape and mustard is popularly known as *Sarson-ka-tel*. It may be manufactured by expeller or hydraulic pressed process or by solvent extraction process. The oilcake derived from mustard and rape seeds is a feed of high nutritive value and is being used by the feed manufacturers in the country as feed ingredient.

The formulation of this standard has been undertaken to specify requirements for solvent extracted mustard and rapeseed oilcake (meal) used as livestock feed ingredient. This standard only covers solvent extracted mustard and rapeseed oil cake (meal) meant for livestock. BIS has formulated a separate Indian Standard IS 1932 : 2022 for expeller or hydraulic pressed mustard and rape seed oilcake.

The composition of the Committee responsible for the formulation of this standard is given in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

SOLVENT EXTRACTED MUSTARD AND RAPESEED OILCAKE (MEAL) AS LIVESTOCK FEED INGREDIENT — SPECIFICATION

1 SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and tests for solvent extracted mustard and rapeseed (*Brassica* spp.) oilcake (meal) used as livestock feed ingredient.

1.2 This standard does not cover the mustard and rapeseed oil cake manufactured by hydraulic or expeller or rotary pressed oilcake meant for livestock.

2 REFERENCES

The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards.

3 REQUIREMENTS

3.1 General

The material shall be free from harmful constituents, castor oilcake, husk and *Mahua* oilcake. It shall also be free from rancidity, adulterants, insect or visible fungus infestation and from fermented, musty or other objectionable odours. It shall further be free from dirt and extraneous matter including iron or other metallic pieces.

3.2 Solvent for Extraction

Only hexane of food grade conforming to IS 3470 shall be used for extracting oil from mustard and rapeseed oil cake.

3.3 The material shall also conform to the requirements prescribed in Table 1.

Table 1 Requirements for Solvent Extracted Mustard and Rapeseed Oilcake (Meal) as Livestock Feed Ingredient

(*Clauses* 3.3 *and* 6.1)

Sl No.	Characteristic	Requirements	Method of Test, Ref to
(1)	(2)	(3)	(4)
i)	Moisture, percent by mass, *Max*	10.0	**4** of IS 7874 (Part 1)
ii)	Crude protein (N × 6.25), percent by mass, *Min*	37.0	IS/ISO 5983 (Part 1)* or IS 5983 (Part 2)
iii)	Crude fibre, percent by mass, *Max*	12.0	IS/ISO 6865
iv)	Acid insoluble ash, percent by mass, *Max*	2.0	Annex A of IS 1712 or IS 14826*
v)	Castor husk, oil cake	-	**11** of IS 7874 (Part 1)
vi)	*Mahua* cake	-	**12** of IS 7874 (Part 1)
vii)	Aflatoxin B_1, ppb, *Max*	20.0	IS/ISO 14718* or IS 18143 or AOAC 2003.02

NOTES

1 The values specified for requirements at Sl No. (ii) to (vii) are on moisture-free-basis.
2 In case of dispute, the test methods given above and wherever indicated by '*' shall be the referee method.
3 For crude fibre, the manual method given in IS 6865 shall be the referee method.

4 PACKING AND MARKING

4.1 Packing

Unless otherwise agreed to between the purchaser and the manufacturer, the material shall be packed in clean, dry and sound jute or HDPE bags. The mouth of each bag shall be either machine-stitched or rolled over and hand stitched with strong twine.

4.2 Marking

4.2.1 Each bag shall be legibly and indelibly marked to give the following information:

a) Name of the material;
b) Name and address of the manufacturer;
c) Batch or code number;
d) Net mass in kg;
e) Date of packing;
f) Best before date in month and year format; and
g) Any other requirements as specified under the *Legal Metrology* (*Packaged Commodities*) *Rules*, 2011.

4.2.2 *BIS Certification Marking*

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

5 SAMPLING

Representative samples of the material for ascertaining conformity to this standard shall be drawn according to the method prescribed in Annex D of IS 2052.

6 TESTS

6.1 Tests shall be carried out as prescribed in co1 (4) of Table 1.

6.2 Quality of Reagents

Unless specified otherwise, pure chemicals and distilled water (*see* IS 1070) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the test results.

ANNEX A

(*Clause* 2)

LIST OF REFERRED STANDARDS

IS No.	*Title*
IS 1070 : 2023	Reagent grade water — Specification (*fourth revision*)
IS 1712 : 2022	Cottonseed oilcake as livestock feed ingredient — Specification (*third revision*)
IS 2052 : 2023	Compounded feeds for cattle — Specification (*fifth revision*)
IS 3470 : 2017	Hexane, food grade — Specification (*second revision*)
IS/ISO 5983	Animal feeding stuffs — Determination of nitrogen content and calculation of crude protein content:
(Part 1) : 2005	Kjeldahl method
(Part 2) : 2021/ ISO 5983-2 : 2009	Block digestion and steam distillation method (*first revision*)
IS/ISO 6865 : 2000	Animal feeding stuffs — Determination of crude fibre content — Method with intermediate filtration
IS 7874 (Part 1) : 1975	Methods of tests for animal feeds and feeding stuffs: Part 1 General methods
IS/ISO 14718 : 1998	Animal feeding stuffs — Determination of aflatoxin B_1 content of mixed feeding stuffs — Method using high-performance liquid chromatography
IS 14826 : 2021/ ISO 5985 : 2002	Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid (*first revision*)
IS 18143 : 2023/ ISO 17375 : 2006	Animal feeding stuffs — Determination of aflatoxin B_1

ANNEX B

(*Foreword*)

COMMITTEE COMPOSITION

Animal Feeds and Nutrition Sectional Committee, FAD 05

Organization	*Representative(s)*
In Personal Capacity (*81, North City, Opposite Air Force Station Gate, Pilibhit Road, Izatnagar, Bareilly - 243122*)	DR R. K. SINGH **(*Chairperson*)**
All India Poultry Breeders Association, New Delhi	DR A. K. RAJPUT
Animal Welfare Board of India, Faridabad	DR PRACHI JAIN DR DEBALINA MITRA (*Alternate*)
Association of Indian Pet Food Manufacturers, New Delhi	DR AKANKSHA SINGH SHRI GOVIND SURYAWANSHI (*Alternate*)
Centre for Science and Environment, New Delhi	SHRI AMIT KHURANA
Centre of Analysis and Learning in Livestock and Food, Anand	DR RAJESH NAIR SHRI SHASHIKANT GUPTA (*Alternate*)
Compound Livestock Feed Manufacturers Association of India, Navi Mumbai	PROF (DR) A. S. RANADE DR R. S. MASALI (*Alternate*)
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Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Anjora	DR SANJAY SHAKYA DR MANOJ KUMAR GENDLEY (*Alternate*)
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ICAR - Indian Veterinary Research Institute, Izzatnagar	DR L. C. CHAUDHARY DR A. K. VERMA (*Alternate*)

Organization	*Representative(s)*
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SHRIMATI NITASHA DOGER
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Review of Indian Standards

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This Indian Standard has been developed from Doc No.: FAD 05 (19928).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Published by BIS, New Delhi