



Material Safety Data Sheet

Format no: RDM/MSDS/LISM-01

Revision: 01 / 2024

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifiers

Product Name

**Linsmaier and Skoog Modified Medium
(With vitamins, Without Sucrose and Agar)
(RDM-LISM-01)**

Product Code

Brand

ReadyMED®

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified Uses

Plant tissue culture media, used for in vitro generation of plants.

1.3 Details of the supplier of the safety data sheet

Company

CHAITANYA AGRO BIOTECH PVT. LTD.

CIN NO.: U24210MH1995PTC095220S,

S. No. 120/2, Laxmi Nagar, Umbarnala Road, Malkapur-443101, Dist.:
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rdmsales@chaitanyagroupindia.com, mkt.cabt@chaitanyagroupindia.com,
www.chaitanyagroupindia.com

1.4 Emergency telephone number

Emergency Phone#

Local Emergency Service numbers where product is being used

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

No Significant Hazard

2.2 Label elements

No Significant Hazard

2.3 Other hazards

Combustible dusts: May form combustible dust concentrations in air.
Dust may be irritating if inhaled.

SECTION 3: Composition/information on ingredients

3.1 Mixtures

Contain Harmful / Irritant material

Chemical name	CAS No.	Concentration (%)
Boric acid	10043-35-3	≥0.0006 - ≤0.0062
Calcium chloride	10043-52-4	≥ 0.332 - ≤ 0.033
Cobalt chloride	7646-79-9	≥ 0.000025 - ≤ 0.00025
Copper sulphate	7758-98-7	≥ 0.000025 - ≤ 0.00025
Ferrous sulphate	7720-78-7	≥ 0.027 - ≤ 0.0027
Magnesium sulphate	7487-88-9	≥ 0.0180 - ≤ 0.180
Manganese sulphate	10034-96-5	≥ 0.016 - ≤ 0.16
Molybdcic acid	7782-91-4	≥ 0.0000213 - ≤ 0.000213
Potassium iodide	7681-11-0	0.0000830 - ≤ 0.000830
Potassium nitrate	7757-79-1	≥ 0.19 - ≤ 1.90
Zinc sulphate	7446-19-7	≥ 0.00086 - ≤ 0.0086

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult physician with this safety data sheet

If inhaled

Move the person to fresh air; if person is unable to breath give artificial respiration and consult physician

Eye contact

Rinse immediately with plenty of water. Contact lenses should be removed. Seek medical attention if irritation or symptoms persist

In case of skin contact

Wash with soap and plenty of water in order to remove all contents from skin

If swallowed

Rinse mouth with water and consult physician.

4.2 Acute and delayed important symptoms

Most important symptoms and effects, both acute and delayed

and effects

Inhalation	May cause irritation to respiratory system
Eye contact	May cause irritation to eyes
Skin contact	May cause irritation to skin
Ingestion	Ingestion may cause nausea and vomiting

4.3 Indication of any specific or immediate medical treatment needed	Remove the affected person from the source of contamination immediately. Transfer to hospital if there are burns or symptoms of poisoning. Seek medical attention if irritation or symptoms persist. If medical advice is needed, have product container or label at hand.
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SECTION 5: Firefighting measures

5.1 Extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide/ Use extinguishing media appropriate to the surrounding fire conditions.
5.2 Special hazards arising from the substance or mixture	Combustible dusts: May form combustible dust concentrations in air. Avoid formation of dust. Do not allow undiluted product to be released to ground water, water course or sewage system.
5.3 Advice for fire fighters	Wear self-contained breathing apparatus for firefighting if necessary. Do not breathe dust or vapor. Wear suitable respiratory equipment when necessary.
5.4 Further information	No data available

SECTION 6: Accidental release measures

6.1 Personal protective equipment and emergency procedures	Use personal protective equipment as per the local authority or the firm. Avoid dust formation and breathing dust. Avoid breathing vapours, mist or gas. Ensure adequate ventilation in area of work. For personal protection see section 8.
6.2 Environmental precautions	Do not let product enter drains.
6.3 Methods and materials for containment and cleaning up Pick up and arrange disposal without creating dust.	Sweep up and shovel. Keep in suitable, closed containers for disposal.
6.4 Reference to other sections	For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling Provide appropriate exhaust ventilation at places where dust is formed.	Normal measures for preventive fire protection. For precautions see section 2.2. & 6.1
7.2 Conditions for safe storage, including any incompatibilities	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Hygroscopic, Moisture sensitive.
7.3 Specific end use(s) Apart from the uses mentioned in section 1.2	No other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters	Components with workplace control parameters and regulations
8.2 Exposure controls Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment Eye/face protection	Triple layered Surgical Face mask and Safety glasses with side-shields.

Skin protection	Use of proper gowning/ aprons, Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product in accordance with good laboratory practices.
Body Protection	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place
Respiratory protection	Respiratory protection is not required. Where protection from nuisance levels of dusts is desired, use triple layered surgical type or type P1
Control of environmental exposure	Do not let product enter drains.
Other information	Stomach pains, vomiting, diarrhoea. Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: powder Colour: Off white coloured
b) pH	5.75 ± 0.2 at 25°C
c) Melting point/freezing point	No data available
d) Initial boiling point and boiling range	No data available
e) Flash point	No data available
f) Evaporation rate	No data available
g) Flammability (solid, gas)	No data available
h) Upper/lower flammability or explosive limits	No data available
i) Vapour pressure	No data available
j) Vapour density	No data available
k) Relative density	No data available
l) Water solubility	No data available
m) Partition coefficient: n-octanol/water	No data available
n) Auto-ignition temperature	No data available
o) Decomposition temperature	No data available
p) Viscosity	No data available
q) Explosive properties	No data available
r) Oxidizing properties	No data available

9.2 Other safety information	No data available
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SECTION 10: Stability and reactivity

10.1 Reactivity	No data available
10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	No data available
10.4 Conditions to avoid	No data available
10.5 Incompatible materials	Strong oxidizing agents
10.6 Hazardous decomposition products	Nature of decomposition products not known. Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas, Sodium oxides Other decomposition products - No data available In the event of fire: see section 5
Hazardous decomposition products formed under fire conditions.	

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	Oral LD 50 (Albino Rat) > 1000 mg/kg
Skin corrosion/irritation	May cause irritation to skin.
Serious eye damage/eye irritation	May cause irritation to eyes
Respiratory or skin sensitisation	May cause allergic reactions in susceptible people
Germ cell mutagenicity	No mutagenic effects reported.
Carcinogenicity IARC:	No components of this product present at levels greater than or equal

Reproductive toxicity
 Specific target organ toxicity - single exposure
 Specific target organ toxicity - repeated exposure
 Aspiration hazard
 Additional Information RTECS

to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
 No teratogenic effects reported.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 No Significant Hazard
 No Significant Hazard
 Avoid prolonged or repeated exposure. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing, asthma) are possible
 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity
 12.2 Persistence and degradability
 12.3 Bio-accumulative potential
 12.4 Mobility in soil
 12.5 Results of PBT and vPvB assessment
 12.6 Other adverse effects

Based on available data, the classification criteria are not met. However, this product does contain substance(s) that are classified as hazardous. For more information, see Section 3 and 4
 No data available
 No data available
 No data available
 PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
 No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
 Product

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

Type of Material
 UN proper shipping number
 UN proper shipping name

Not dangerous goods
 There is no UN number allocated to non-hazardous substances.
 ADN: ADR: I ATA: IMDG: RID:
 ADN: Not regulated
 ADR: Not regulated
 IATA: Not regulated
 IMDG: Not regulated
 RID: Not regulated

Transport hazard class(es)
 Packaging group
 Environmental hazards
 D O T Classification
 Air Transport Goods
 Marine Transport Goods
 Land Transport Goods
 IATA Specification
 Special Provisions for Transport:

ADN: ADR: IATA: IMDG: RID:
 ADN: ADR: IATA: IMDG: RID:
 AND: no ADR: no IATA: no IMDG: no RID: no
 Not a DOT controlled material

Non-Hazardous / Non-Dangerous Classification

Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors

Neither Banned Nor Restricted

REACH - Restrictions on the manufacture, placing on the market and use of certain

Neither Banned Nor Restricted

dangerous substances, preparations and articles (Annex XVII)

Listed substance / Sunset Date

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

15.2 Chemical safety assessment

For this product a chemical safety assessment was be carried out

SECTION 16: Other Information

Abbreviations:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CAS no.: Chemical Abstracts Service Number
CLP: Classification, Labelling and Packaging
ECHA: European Chemical Agency
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods
LD50: Median lethal dose
OECD: Organization for Economic Cooperation and Development
PBT: Persistent Bioaccumulative Toxic
REACH: Registration, Evaluation, Authorisation and restriction of Chemicals.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
RTECS: Registry Of Toxic Effects of Chemical Substances
vPvB: Very Persistent and Very Bioaccumulative

Disclaimer:

The information contained in the technical data sheet is to the best of our knowledge is accurate and true based on the research and development work carried out by **ReadyMED®**, Chaitanya Agro Biotech, Malkapur, Maharashtra. The products are neither intended for any therapeutic use for animal or human nor for any other *in-vivo* applications. The **ReadyMED®** products are only meant to be used for the laboratory, diagnostic, research, or further manufacturing purpose only. These technical outcomes should not be considered as the warranty of any kind expressed or implied, and no liability is accepted for infringement of any patent



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