

MATERIAL SAFETY DATA SHEET

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Revised 6/23/98
Replaces 6/23/98
Printed 11/16/01

AGAROSE ULTRA PURE
INVITROGEN CORPORATION
MS ID: 15510

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MSDS ID: 15510

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

BCO
Invitrogen Corporation
P.O. Box 68
Foster City, New York 14072
S.A. 1-(800) 828-6686

For Emergencies Concerning
Human Health or the Environment:
U.S.A. 1-(301) 431-8585

Product Name: Agarose
MS Number: 15510
Catalog Number(s): 15510; 15510011 14610;
15510027 15517; 15517055 15564
10975 10975019; 10975027

Trade Name(s): Agarose DNA Typing Grade Agarose Low Melting Point
Agarose Rapid Agarose Agarose 1000

Synonyms: Agar agar neutral gel fraction Agaran Bio Gel A

Chemical Formula: (C12 H22 O11)n

Molecular Weight: >50,000

2. COMPOSITION, INFORMATION ON INGREDIENTS

Component	CAS No.	Percent
AGAROSE	9012-36-6	60 - 100
WATER	7732-18-5	7 - 13

Component	AIHA ERPG:	OSHA IDLH:
AGAROSE	not estab.	not estab.
WATER	not applic.	not applic.

3. HAZARDS IDENTIFICATION

***** EMERGENCY OVERVIEW *****
Combustible powder.
Occupational exposure presents little or no health hazard to most people.
Most exposures do not require medical attention.
No systemic effects likely.
May cause allergic reaction.

Principal Routes of Entry

3. HAZARDS IDENTIFICATION (Cont.)

Route of Entry Inhalation: Yes.
Route of Entry Skin: No.
Route of Entry Ingestion: Yes.

Effects of Overexposure
Acute Effects:

From Eye Exposure:
Not expected to be significantly absorbed. May cause lacrimation, or tearing of the eye. May cause irritation or reddening.

From Skin Overexposure:
Not expected to be significantly absorbed. Not likely to enter through cuts or abrasions in hazardous amounts.

From Inhalation:
May cause nasal irritation. May cause lung congestion. No toxicity expected from inhalation.

From Ingestion:
No toxicity expected from ingestion. May cause mouth or throat dryness. May cause difficulty in swallowing (dysphagia, agglutination). Not expected to be absorbed through the gastrointestinal tract in toxic quantities.

Other / Systemic Effects
No systemic effects likely.

Summary of Medical Conditions Aggravated by Exposure:
Chronic respiratory pathologies.

4. FIRST AID MEASURES

First Aid For Eyes:
Flush with water in an eyewash for at least 5 minutes.

First Aid For Skin:
Wash with plenty of soap and water.

First Aid For Inhalation:
Remove person to fresh air. Monitor continuously for respiratory distress.

First Aid For Ingestion:
Give plenty of water, if conscious.

Note To Attending Physician:
No specific antidote. Treat symptomatically. Maintain hydration.

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4. FIRST AID MEASURES (Cont.)5. FIRE FIGHTING MEASURES

Combustible: Yes.

Flashpoint: (F) (C) *
 No specific information found.

Method Used: Not applicable

LEL: 360 g/m3
 No specific information found.

UEL: *

Autoignition Temp.: *
 No specific information found.

Extinguishing Agents:
 Use means appropriate for surrounding materials.

Personal Protective Equipment for Fire Conditions:
 Use protective equipment appropriate for surrounding materials.

6. ACCIDENTAL RELEASE MEASURES

(Note that accidental releases may be subject to special reporting requirements and other regulatory mandates. Check and comply with applicable laws and regulations.)

Personal Protective Equipment for Spill Conditions:
 Latex gloves are recommended as minimum hand protection when handling chemicals. The following clothing and/or equipment material(s) should generally be protective: Tightly woven cotton or other fabric. Any waterproof material. Safety glasses should be the minimum eye protection. Chemical goggles should be used to reduce contact where the potential for airborne powders or dusts exists.

(See section 8 for recommendations on protective materials of construction.)

Spill Cleanup:
 Ventilate area. Sweep gently to avoid generating dust. Flush area with water. Product material and/or water runoff may be slippery. Absorb spill. Common absorber materials effective. Deposit in appropriate containers for removal and disposal.

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6. ACCIDENTAL RELEASE MEASURES (Cont.)

Special Instructions:
 Avoid generating dust.

7. HANDLING AND STORAGE

(Storage of some materials is regulated; it is the purchaser's responsibility to ensure that storage complies with all applicable laws and regulations.)

Storage Temperature: Refrigerated (4-10 C).

Storage Pressure: Atmospheric.

Storage and Handling Procedures:
 Keep away from ignition sources. Store away from strong oxidizing agents. Keep container tightly sealed. Suitable for most general chemical storage areas.

Special Storage Considerations:

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

General Protection and Precautions

Protective Measures:
 Avoid eye contact. Do not wear contact lenses while handling this product. Avoid generating dust. Area ventilation is generally adequate.

Air Purifying Respirator Canisters/Cartridges:
 Dusts, fumes, and mists (red or gray stripe ANSI color code, NIOSH approved). HEPA-type dusts/radionuclides (magenta ANSI color code, NIOSH approved).

Glove and Protective Clothing:
 Tightly woven cotton or other fabric. Any waterproof material.

Eye Protection:
 Safety glasses should always be the minimum eye protection when handling chemicals.

Hygiene Practices:

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off-white to brown powder.
 Color: No odor.
 Boiling Point (F) (C): *
 No specific information found.
 Melting Point (F) (C): *
 No specific information found.
 pH: Not applicable.
 Evaporation Rate: No specific information found.
 Vapor Density (Air = 1): 0.62 (water)
 Solubility in water (g/100g): >10
 Partition Coefficient (Kow): <1
 Vapor Pressure (mm Hg): <22
 Volatiles (lbs/gallon): <1.2
 Viscosity (Cp): Not applicable.
 Heating Coefficient (cal/g): No specific information found.
 Conductivity (mhos/cm³): Not applicable.
 Specific Gravity: 1.49

10. STABILITY AND REACTIVITY

Stability: Dry solid stable under proper storage conditions.
 Conditions To Avoid: Keep away from ignition sources.
 Materials To Avoid:

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10. STABILITY AND REACTIVITY (Cont.)

Contact with moisture. Store away from strong oxidizing agents.

Hazardous Products Of Spontaneous Decomposition:
 Not expected to occur.

Hazardous Products Of Thermal Decomposition:
 Carbon monoxide, carbon dioxide. The quantity generated may pose a minor hazard.

Hazardous Polymerization:
 Will not occur.

11. TOXICOLOGICAL INFORMATION

Consensus Exposure Guidelines:

ACGIH:

Component
 +AGAROSE
 +WATER

TLV-TWA:	TLV-STEL:	TLV-Ceiling:	Skin:	BEI:
not estab.	not estab.	not estab.	no	not estab.
not applic	not applic	not applic.	no	not applic.

Regulatory Exposure Guidelines:

OSHA

Component
 +AGAROSE
 +WATER

PEL:	OSHA STEL:	Excursion:	Skin Warning?:
not estab.	not estab.	not estab.	no
not applic	not applic	not applic.	no

Acute Exposures

Eyes:
 Some relevant human effects data available.

Dermal:
 Some relevant human effects data available.

Inhalation:
 Some relevant human effects data available.

Oral:
 Considerable relevant human effects data available.

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11. TOXICOLOGICAL INFORMATION (Cont.)

Sensitization:
 Some relevant human effects data available.

Chronic Effects

Systemic effects:
 Considerable relevant human effects data available.

Target Organs:
 None.

Mutagenicity:
 Not expected to occur.

Reproductive Hazards:
 Not expected to occur.

Carcinogenicity Status

Carcinogenicity:
 Not expected to occur.

NTP:
 Not listed.

IARC:
 Not listed.

OSHA:
 Not listed.

Toxicological Investigations

Mice:
 Toxic Oral; Rodent-mouse; LD50: 16 gm/kg; Details of toxic effects not reported other than lethal dose value; Agar agar

Rats:
 Toxic, Oral; Rodent-rat; LD50: 11 gm/kg; Details of toxic effects not reported other than lethal dose value; Agar agar

Human:
 No specific information found.

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12. ECOLOGICAL INFORMATION

Ecotoxicological Information:
 Little or no toxic effects expected upon environmental release.

Environmental Movement and Partitioning:
 Short-term movement could be rapid due to high water solubility.
 Expected to partition strongly into aqueous environmental components.

Environmental Fate (Degradation, Transformation, and Persistence):
 This is a naturally occurring material.
 Expected to rapidly decompose in the environment.

Environmental Investigations:
 No specific information found.

13. DISPOSAL CONSIDERATIONS

EPA Waste Number (RCRA Hazard Class):
 Not specifically listed in the D, F, K, P, or U waste tables of the US EPA Resource Conservation and Recovery Act (RCRA), 40 CFR Part 261.

Other Waste Classifications:

Treatment and Disposal:
 This product is not recyclable or reusable. Product is not harmful to the environment and may be released to sewers. May be incinerated in typical trash incinerators. Product is compatible with typical landfill disposal if no other method is available.

(Note that treatment and disposal activities may be subject to laws and regulations that may include before-the-fact permitting as well as reporting requirements. It is the purchaser's responsibility to comply.)

14. TRANSPORT INFORMATION

North American Emergency Response Guidebook #:
 None assigned.

Transportation Agency:
 ICAO/IATA.

Shipping Designation:
 Does not meet the definition of a "hazardous material" for transportation purposes (U.S. DOT).

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14. TRANSPORT INFORMATION (Cont.)

(Agarose)

Hazard Class:
 None assigned.

UN #:
 None assigned.

Packing Group:
 None assigned.

Required Label Description:
 None assigned.

15. REGULATORY INFORMATION

OSHA: Conforms to definition as a "hazardous chemical" under US OSHA HazCom regulation (29 CFR Part 1910.1200 (c) and Appendix B).

TSCA: Included in the US EPA Toxic Substances Control Act (TSCA; 40 CFR Part 710) inventory as a natural product. Molecular structure is not significantly altered from its natural state by processing.

SARA: Not listed.

CERCLA Reportable Quantity:

Section 302:
 Not listed.

Section 304:
 Not listed.

Section 313:
 Not listed.

US California Proposition 65:

Canadian Regulations:
 WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (CPR SECTION (33)) This product has been classified according to the hazard criteria of the Controlled Products Regulations, and the MSDS. This document contains all required information.

European Union:
 Not classified as dangerous.

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15. REGULATORY INFORMATION (Cont.)

MAC (Germany):
 None assigned.

EINICS #:
 None assigned.

Risk Phrase: None assigned.

Safety Phrase: None assigned.

Safety Symbol: None assigned.

16. OTHER INFORMATION

NFPA 704M Rating

Fire: 1 Health: 0 Reactive: 0 Special: none

Additional NFPA information:
 Ratings not reviewed by NFPA.

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since Life Technologies cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS MSDS DOES NOT CONSTITUTE A WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.