

Material Safety Data Sheet of Agarose

MSDS No. M030701

Date: July 15, 2003

1. Composition/Information on Ingredients

Ingredient	Percent	Hazardous
Agarose	90 - 100%	Yes

2. Hazards Identification

Emergency Overview

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

Health Rating: 0 - None

Flammability Rating: 1 - Slight

Reactivity Rating: 0 - None

Contact Rating: 0 - None

Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation:

Nuisance dust. May cause coughing or sneezing if inhaled in large amounts.

Ingestion:

No adverse effects expected. Very large ingestion may cause gastrointestinal upset due to gelation and bulking with possible constipation.

Skin Contact:

No adverse effects expected.

Eye Contact:

No adverse effects expected but dust may cause mechanical irritation.

Chronic Exposure:

No information found.

Aggravation of Pre-existing Conditions:

No adverse health effects expected.

3. First Aid Measures

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.

Skin Contact:

Wash exposed area with soap and water. Get medical advice if irritation develops.

Eye Contact:

Wash thoroughly with running water. Get medical advice if irritation develops.

4. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment. Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Small amounts of residue may be flushed to sewer with plenty of water.

5. Fire Fighting Measures

Fire:

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Explosion:

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Handling and Storage

Store in a cool, dry, ventilated area away from sources of heat or ignition. Protect from moisture. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

7. Personal Protection /Exposure Controls

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing

dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

8. Physical and Chemical Properties

Appearance: White powder.

Odor: Odorless.

Solubility: Slightly soluble in water.

pH: No information found.

% Volatiles by volume @ 21C (70F): No information found.

Boiling Point: Not applicable.

Melting Point (1.5% gel) : 85.5 – 88.5 °C

Vapor Density (Air=1): No information found.

Vapor Pressure (mm Hg): No information found.

Evaporation Rate (BuAc=1): No information found.

9. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Carbon dioxide and carbon monoxide may form when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Oxidizers.

Conditions to Avoid:

No information found.

10. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

Ingredient	Known	Anticipated	IARC Category
Agarose	No	No	None

11. Ecological Information

Environmental Fate: No information found.

Environmental Toxicity: No information found.

12. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

13. Transport Information

Not regulated.

14. Regulatory Information

-----\Chemical Inventory Status -- Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Agarose	Yes	Yes	No	Yes

-----\Chemical Inventory Status -- Part 2\-----				
Ingredient	Korea	--Canada--		Phil.
		DSL	NDSL	
Agarose	Yes	Yes	No	Yes

-----\Federal, State & International Regulations -- Part 1\-----				
Ingredient	-SARA 302		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
Agarose	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	-RCRA-		-TSCA-
	CERCLA	261.33	8(d)
Agarose	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No

SARA 311/312: Acute: No Chronic: No Fire: No Pressure: No
Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

15. Other Information

NFPA Ratings: Health: 0 Flammability: 1 Reactivity: 0

Label Hazard Warning:

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

Label Precautions: None.

Label First Aid: Not applicable.

Product Use: Laboratory Reagent.

MSDS

Agarose, Standard, Low Electroendosmosis (EEO) Ultrapure Bioreagent

For Electrophoresis

Product Number	Group Code	Units per Case	Pkg Size	Container Type
CA3510-X	---	---	500 g.	Poly

CA3510-X	---	--	25 kg	Poly
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Actual Lot Analysis Reported on Label

Sulfate (SO ₄)	max. 0.15%
Electroendosmosis (EEO)(-m _r)	max. 0.15
Gel Strength, g/cm ² (1% gel)	min. 1200
Gelling Point (1.5% gel)	31.5 - 34.5 °C.
Melting Point (1.5% gel)	85.5 - 88.5 °C.
DNase Activity	Passes Test
RNase Activity	Passes Test

Material Safety Data Sheet

	<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>	<u>Contact</u>
<u>SAF-T-DATA Rating</u>	0	1	0	0