

Material Safety Data Sheet

alpha-D-(+)-Lactose monohydrate Powder

ACC# 45372

Section 1 - Chemical Product and Company Identification

MSDS Name: alpha-D-(+)-Lactose monohydrate**Catalog Numbers:** S71955, S71956, L5-500, L6-212, L6-500, L8-12, L8-212**Synonyms:** Milk Sugar; Lactin; Lactobiose; 4-(beta-d-Galactosido)-d-Glucose; Soccharum Lactin**Company Identification:**

Fisher Scientific

1 Reagent Lane

Fair Lawn, NJ 07410

For information, call: 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
5989-81-1	alpha-D-Lactose monohydrate	94 - 96	unlisted
7732-18-5	Water	4 - 6	231-791-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white solid.

Caution! May cause eye and skin irritation. The toxicological properties of this material have not been fully investigated.**Target Organs:** None known.**Potential Health Effects****Eye:** May cause eye irritation. The toxicological properties of this material have not been fully investigated.**Skin:** May cause skin irritation. The toxicological properties of this material have not been fully investigated.**Ingestion:** Ingestion of large amounts may cause gastrointestinal irritation. The toxicological properties of this substance have not been fully investigated.**Inhalation:** May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.**Chronic:** No information found.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.

Get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Get medical aid if irritation or symptoms occur.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust can be an explosion hazard when exposed to heat or flame.

Extinguishing Media: Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 1; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
alpha-D-Lactose monohydrate	none listed	none listed	none listed

Water	1 mg/m ³ TWA (as W) (listed under Tungsten, soluble compounds).3 mg/m ³ STEL (as W) (listed under Tungsten, soluble compounds).	3 mg/m ³ TWA (as W) (listed under Tungsten, soluble compounds).	none listed
-------	-------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------	-------------

OSHA Vacated PELs: alpha-D-Lactose monohydrate: No OSHA Vacated PELs are listed for this chemical. Water: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white

Odor: odorless

pH: Not available.

Vapor Pressure: Negligible.

Vapor Density: Not available.

Evaporation Rate: Negligible.

viscosity: Not available.

boiling Point: Decomposes

Freezing/Melting Point: 219 deg C

Decomposition Temperature: > 219 deg C

Solubility: Soluble in water.

Specific Gravity/Density: 1.525

Molecular Formula: C₁₂H₂₂O₁₁.H₂O

Molecular Weight: 360.32

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, dust generation, excess heat.

Incompatibilities with Other Materials: Oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

PTCS#:

U.S. # 5989-81-1 unlisted.

CAS# 7732-18-5; ZC0110000

LD50/LC50:

Not available.

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity:

CAS# 5989-81-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RA P-Series: None listed.

RA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Not regulated as a hazardous material	No information available.
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 5989-81-1 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

CAS# 7732-18-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

RCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

Section 313

This material contains Water (listed as Water Dissociable Nitrate Compounds), 4 - 6%, (CAS# 7732-18-5) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 5989-81-1 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

Not available.

Risk Phrases:

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 5989-81-1: No information available.

CAS# 7732-18-5: No information available.

Canada - DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of Not controlled..

Canadian Ingredient Disclosure List

CAS# 7732-18-5 is not listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 2/16/1999

Revision #5 Date: 10/05/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for

any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.