

MATERIAL SAFETY DATA SHEET

EMERGENCY TELEPHONE: 800-424-9300 (Chemtrec)

Health : 0
Flammability : 1
Reactivity : 0

Lonza Inc.
90 Boroline Road Allendale, NJ 07401
800-777-1875 (9am - 5pm) 309-697-7200 (After 5pm)

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Aldo HMS Kosher Food Grade

MATERIAL	DATE ISSUED	DOT HAZARD CLASSIFICATION
Aldo HMS KFG	04/26/05	Non-hazardous
CAS NO. 67701-33-1	SUPERSEDES	DOT SHIPPING NAME
	08/21/00 - Rev.	Not regulated
FORMULA Mixture		DOT LABEL None

CHEMICAL NAME Glycerides, C₁₄₋₁₈, mono- and di-; Glyceryl monostearate, high mono; Glyceryl stearate (INCI [CTFA] name)

***** I - INGREDIENTS *****

	APPROXIMATE WEIGHT %	TWA/TLV
Glycerides, C ₁₄₋₁₈ , mono- and di- (CAS No. 67701-33-1)	93	None established
Glycerides, C ₁₄₋₁₈ , tri- (CAS No. 67701-27-3)	5	None established
Glycerine (CAS No. 56-81-5)	1	10 mg/m ³ - glycerin mist (total particulates-OSHA) 5 mg/m ³ - glycerin mist respirable fraction-OSHA 10 mg/m ³ (total particulates- ACGIH-TWA)
Fatty acids, C ₁₄₋₁₈ (CAS No. 67701-02-4)	1	None established

***** II - PHYSICAL AND CHEMICAL PROPERTIES *****

APPEARANCE White beads	pH Not known
VISCOSITY Not applicable	ODOR Mild fatty
BOILING POINT Not known	MELTING OR FREEZING POINT 57-62°C
VAPOR DENSITY (Air=1) Not applicable	VAPOR PRESSURE (mm Hg) Not applicable
PERCENT VOLATILE (by weight) Nil	SPECIFIC GRAVITY (WATER=1) 0.97 @ 25°C
EVAPORATION RATE (Butyl Acetate=1) Not applicable	SOLUBILITY IN WATER Dispersible

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***** V - REACTIVITY INFORMATION *****

STABILITY: STABLE X **CONDITIONS TO AVOID**
UNSTABLE None known

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition may produce toxic organic vapors/fumes and oxides of carbon.

HAZARDOUS POLYMERIZATION **CONDITIONS TO AVOID**
MAY WILL NOT X None known
OCCUR OCCUR

INCOMPATIBILITY (MATERIALS TO AVOID)

WATER OTHER X Strong oxidizing agents, acids or bases

***** VI - SPILL AND DISPOSAL INFORMATION *****

STEPS TO BE TAKEN IN CASE OF MATERIAL SPILL OR RELEASE

CAUTION! Wear appropriate protective equipment and respiratory protection where dusts or airborne particulates of unknown concentrations may be generated (self-contained breathing apparatus preferred for large spills).

Shovel spills into appropriate containers for recovery or disposal. Wet residue with water and absorb with inert material (sand, earth...) and transfer into appropriate containers for recovery or disposal. Keep spill out of sewers and open bodies of water.

WASTE DISPOSAL METHODS

Dispose of in compliance with all Federal, state and local laws and regulations. Incineration is the preferred method.

***** VII - PERSONAL PROTECTION INFORMATION *****

ENGINEERING CONTROLS

In processes where dusts or airborne particulates may be generated, proper ventilation must be provided in accordance with good ventilation practices.

RESPIRATORY PROTECTION

In processes where dusts or airborne particulates may be generated, a NIOSH/MSHA jointly approved respirator is advised in the absence of proper environmental controls.

PROTECTIVE GLOVES

None required provided that normal industrial hygiene practices are observed.

EYE PROTECTION

None required provided that normal industrial hygiene practices are observed.

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***** VII - PERSONAL PROTECTION INFORMATION *****

OTHER PROTECTIVE EQUIPMENT

None required provided that normal industrial hygiene practices are observed.

***** VIII - STORAGE AND HANDLING *****

PRECAUTIONS FOR STORAGE AND HANDLING:

To maintain product quality, do not store in heat or direct sunlight.
Keep containers closed until used.

***** IX - TOXICOLOGY INFORMATION *****

The toxicology information provided is for this material and/or for related material(s) and component(s) of this material.

TOXICITY

ACUTE

For Aldo HMS:

- oral LD₅₀ (rat): >5000 mg/kg
- eye irritation (rabbit): Not an irritant without washing.
- skin irritation (rabbit): Not an irritant.

For Glyceryl monostearate:

- oral LD₅₀ (rat - 33% Active): >10000 mg/kg
- oral LD₅₀ (rat - 33% Active): >32000 mg/kg
- eye irritation (rabbit): Not to mild irritant with or without washing.
- eye irritation (rabbit - 50% active in corn oil): Essentially not to mild irritant.
- skin irritation (rabbit): Not to mild irritant.
- skin irritation (rabbit - occlusive patch test - 24 hour): Mild irritant.
- skin irritation (human - patch test): Essentially not an irritant.
- skin irritation (human - 50% Active - patch test): Not an irritant.
- skin corrosivity (rabbit - DOT): Not corrosive. Not an irritant.
- skin sensitization (rabbit - Kligman maximization test): Not a sensitizer.
- skin sensitization (rabbit - Lansteiner/Jacobs method): Not a sensitizer.
- skin sensitization (human - repeated insult patch): Not a sensitizer.

GENOTOXICITY/MUTAGENICITY

For Glyceryl monostearate:

- Ames test (Salmonella sp. & Saccharomyces sp.): Not a mutagen.

REPRODUCTIVE/DEVELOPMENTAL

For Glyceryl monostearate:

- multi-generation reproductive/developmental (rat - feeding): No significant adverse effects were noted in body weight gain, growth, reproduction or fetal development in exposure groups fed concentrations from 15 to 25% by weight in a three generation reproductive study.

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***** IX - TOXICOLOGY INFORMATION *****

SUBCHRONIC

For Glyceryl monostearate:

dermal toxicity (rabbit - 4 to 5% Active - 13 weeks): No systemic toxicological changes were noted in exposure groups receiving daily applications of 2 ml/kg/day of a 4 to 5% solution for five days/week for 13 weeks. Slight to moderate erythema, edema, atonia, and occasional fussing were observed in all test animals. Dermatological findings included: dermal inflammatory cell infiltration, hyperkeratosis, and acanthosis. This material was deemed to be a moderate irritant under the conditions of the test.

CHRONIC

For Glyceryl monostearate:

- oral toxicity (rats - feeding - 2 year): Exposure group fed 25% in the diet for two years. Animals developed renal calcification and significant differences in liver weight compared with controls.
- carcinogenicity (mouse - feeding - lifetime): Exposure groups were fed diets containing from 50 to 100 mg in the feed, daily over the lifetime of the animals. The study was designed to determine if the material would cause an increased induction in brain tumors. No statistically significant increase in tumors was noted over that for the control group.
- carcinogenicity (mouse - feeding - lifetime): Exposure group was fed a diet containing 1.5% in the feed, daily over the lifetime of the animals. The study was designed to determine if the material caused an increased induction gastric tumors. No statistically significant increase in tumors was noted over that for the control group.

***** X - MISCELLANEOUS AND REGULATORY INFORMATION *****

FEDERAL LEVEL REGULATIONS:

TOXIC SUBSTANCES CONTROL ACT (TSCA INVENTORY) STATUS:

This product is currently listed on the EPA TSCA 8(b) inventory list.

TSCA Section 12(b) Export Notification

Components present in this product which, if exported, could require either annual or one-time reporting under this regulation are as follows:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

US FDA Regulations on Food Use:

This product is regulated under the following section(s) of the Code of Federal Regulations (CFR) when used in permitted direct food use applications:

21 CFR 139.110, 21 CFR 139.115, 21 CFR 139.117, 21 CFR 139.120, 21 CFR 139.121, 21 CFR 139.122, 21 CFR 139.125, 21 CFR 139.135, 21 CFR 139.138, 21 CFR 139.140, 21 CFR 139.150, 21 CFR 139.155, 21 CFR 139.160, 21 CFR 139.165, 21 CFR 139.180, 21 CFR 184.1324

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***** X - MISCELLANEOUS AND REGULATORY INFORMATION *****

US FDA Regulations on Food Contact:

This product is regulated under the following section(s) of the Code of Federal Regulations (CFR) when used in permitted food contact applications:

21 CFR 175.105, 21 CFR 175.300, 21 CFR 175.320, 21 CFR 175.350, 21 CFR 176.170, 21 CFR 176.200, 21 CFR 176.210, 21 CFR 177.1010, 21 CFR 177.1200, 21 CFR 177.2600, 21 CFR 177.2800, 21 CFR 178.3570

CERCLA (Comprehensive Environmental Response, Compensation and Liability Act of 1980 requires notification of the National Response Center (Telephone 800-424-8802) in the event of a release of quantities of the following hazardous materials contained in this product, if the release is equal to or greater than the Reportable Quantities (RQs) listed in 40 CFR 302.4:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

SARA Title III, Sections 302/304 (Superfund Amendments and Reauthorization act of 1986) - This act requires emergency planning, including agency notification, for possible release of the following components of this material, based upon the Threshold Planning Quantities (TPQs) and release Reportable Quantities (RQs) listed for the Components in 40 CFR 355:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

SARA Title III Sections 311/312 - This act requires reporting under the Community Right-to-Know provisions due to the inclusion of the following components of this material in one or more of the five hazard categories listed in 40 CFR 370:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Hazard *) Categories</u>
None known		

*) The five hazard categories are as follows: F=FIRE HAZARD; S= SUDDEN RELEASE OF PRESSURE; R=REACTIVE; A=IMMEDIATE (ACUTE) HEALTH HAZARD; C=DELAYED (CHRONIC) HEALTH HAZARD

SARA Title III Section 313 - This act requires submission of annual reports of the releases of the following components of this material if the threshold reporting quantities, as listed in 40 CFR 372, are met or exceeded:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

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***** X - MISCELLANEOUS AND REGULATORY INFORMATION *****

STATE RIGHT-TO-KNOW REGULATIONS:

CALIFORNIA PROPOSITION 65 - Components present in this material which the State of California has found to cause cancer, birth defects or other reproductive harm are as follows:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

MASSACHUSETTS Right-to-Know - The following components of this material are included in the Massachusetts Substance List and are present at or above reportable levels:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

MICHIGAN Critical Materials - The following components of this material are included in the Michigan Critical Materials List:

<u>Chemical Name</u>	<u>CAS Number</u>
None known	

NEW JERSEY Right-to-Know - The following components of this material are included in the New Jersey Hazardous Substance List and are present at or above reportable levels:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
None known		

PENNSYLVANIA Right-to-Know - The following components of this material are included in the Pennsylvania Hazardous Substance List and are present at or above reportable levels:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Typical Maximum Concentration</u>
Glycerine	56-81-5	1%