ERYLITE®

Version 1.3 US / EN	Revision Date: 02/24/2022	SDS Number: 100000000000	Date of last issue: 12/17/2020 Date of first issue: 06/30/2017

SECTION 1. IDENTIFICATION

Product name	:	ERYLITE®
Substance name	:	Erythritol
Molecular formula	:	C4-H10-O4
Chemical identity	:	Erythritol, 1,2,3,4 Tetrahydroxybutane
CAS-No.	:	149-32-6
Chemical nature	:	Solid

Manufacturer or supplier's details

Details of the supplier of the safety data sheet

Company	:	Jungbunzlauer Inc. 95 Wells Avenue, Suite 150 Newton, Massachusetts 02459 USA www.jungbunzlauer.com
Telephone	:	+1 617 969-0900
Telefax	:	+1 617 964-2921
E-mail address Responsible/issuing person	:	msds@jungbunzlauer.com

Emergency telephone number

National Chemical Emergency Centre (NCEC)
+1 202 464 2554

Recommended use of the chemical and restrictions on use

Recommended use	:	Food additive Cosmetic additive Industrial use
Restrictions on use	:	None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Combustible dust

GHS label elements

Signal word	:	Warning
Hazard statements	:	May form combustible dust concentrations in air.

Hazards Not Otherwise Classified
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	:	Pure substance
Chemical nature	:	Solid
Substance name	:	Erythritol
CAS-No.	:	149-32-6

SECTION 4. FIRST AID MEASURES

General advice	:	Get medical advice/ attention if you feel unwell. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	:	If breathed in, move person into fresh air. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	Wash off with warm water.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	Drink water as a precaution. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	No information available. None known.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray

Dry powder
Foam
Carbon dioxide (CO2)

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Hazardous decomposition products formed under fire conditions.

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

Hazardous combustion products : Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

Further information : In the event of fire and/or explosion do not breathe fumes.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Wear fire resistant or flame retardant clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Avoid dust formation.
Avoid breathing dust.
Ensure adequate ventilation, especially in confined areas.
Wear personal protective equipment.

Environmental precautions : Prevent further leakage or spillage if safe to do so.
Local authorities should be advised if significant spillages cannot be contained.

If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Non-sparking tools should be used.
Clean contaminated floors and objects thoroughly while observing environmental regulations.

Pick up and arrange disposal without creating dust.
Sweep up and shovel.
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection. Provide appropriate exhaust ventilation at places where dust is formed.
Advice on safe handling	:	Avoid creating dust. Risk of dust explosion. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Take measures to prevent the build up of electrostatic charge. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage conditions	:	Do not expose to temperatures exceeding 50 °C/ 122 °F. Protect from moisture.
Materials to avoid	:	Incompatible with strong bases and oxidizing agents.
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Provide adequate ventilation.

Personal protective equipment

Respiratory protection	:	General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.
Eye protection	:	Ensure that eyewash stations and safety showers are close to the workstation location. Safety glasses
Skin and body protection	:	Wear the following personal protective equipment: Lightweight protective clothing Protective suit
Hygiene measures	:	General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Crystalline powder
Colour	:	white, transparent
Odour	:	odourless
Odour Threshold	:	Not relevant
pH	:	4 - 7 (68 °F / 20 °C) Concentration: 5 g/l
Melting point/range	:	246 - 253 °F / 119 - 123 °C
Boiling point/boiling range	:	624 - 628 °F / 329 - 331 °C
Flash point	:	ca. 338 °F / 170 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined

Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Density	:	1.45 g/cm3
Bulk density	:	700 - 900 kg/m3
Solubility(ies)		
Water solubility	:	ca. 610 g/l soluble (77 °F / 25 °C)
Partition coefficient: n-octanol/water	:	log Pow: -2.29
Auto-ignition temperature	:	> 752 °F / 400 °C
Decomposition temperature	:	No decomposition if used as directed.
Viscosity		
Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	Not applicable
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Molecular weight	:	122.12 g/mol
Dust explosion class	:	St1
Particle size	:	ca. 0.3 - 0.8 mm

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. No hazards to be specially mentioned.
Conditions to avoid	:	Avoid dust formation.
Incompatible materials	:	Strong bases Strong oxidizing agents
Hazardous decomposition products	:	No decomposition if stored and applied as directed. Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.

Carbon dioxide (CO_2)
Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Non-hazardous ingredients:

Erythritol:

Acute oral toxicity	:	LD50 (Rat, female): 13,500 mg/kg Test substance: Erythritol Assessment: The substance or mixture has no acute oral toxicity LD50 (Rat, male): 13,100 mg/kg Test substance: Erythritol Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	(Mouse): Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 (Rat): >= 16,000 mg/kg Test substance: Erythritol Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified based on available information.

Non-hazardous ingredients:

Erythritol:

Species	:	human skin
Exposure time	:	14 d
Assessment	:	Not irritating when applied to human skin.
Result	:	No skin irritation
Test substance	:	Erythritol
Remarks	:	No data available

Serious eye damage/eye irritation

Not classified based on available information.

Non-hazardous ingredients:

Erythritol:

Assessment	:	No eye irritation

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Non-hazardous ingredients:

Erythritol:

Assessment	:	Contains no substance or substances classified as sensitising.

Germ cell mutagenicity
Not classified based on available information.

Non-hazardous ingredients:

Erythritol:

Germ cell mutagenicity - Assessment	:	Not mutagenic in Ames Test

Carcinogenicity
Not classified based on available information.

Non-hazardous ingredients:

Erythritol:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Not classified based on available information.

Non-hazardous ingredients:

Erythritol:

Reproductive toxicity - Assessment	:	Animal testing did not show any effects on fertility. Animal testing did not show any effects on foetal development.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Non-hazardous ingredients:

Erythritol:

Species	:	Rat
NOAEL	:	3,800 mg/kg
Application Route	:	Oral
Exposure time	:	28d
Method	:	OECD Test Guideline 407
Test substance	:	Erythritol
GLP	:	yes
Assessment	:	No adverse effects

Aspiration toxicity

Not classified based on available information.

Non-hazardous ingredients:

Erythritol:

No aspiration toxicity classification

Experience with human exposure

Product:

Inhalation	:	Target Organs: Respiratory system Symptoms: No information available.
Skin contact	:	Target Organs: Skin Symptoms: No information available.
Eye contact	:	Target Organs: Eyes Symptoms: No information available.
Ingestion	:	Target Organs: Digestive organs Symptoms: No information available.

Further information

Product:

Remarks	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Non-hazardous ingredients:

Erythritol:

Toxicity to fish	:	LC50: ca. 1,037 g/l Exposure time: 96 h Test substance: Erythritol Remarks: No toxicity at the limit of solubility
Toxicity to daphnia and other aquatic invertebrates	:	EC50: > 100 mg/l Exposure time: 48 h Test substance: Erythritol Remarks: No toxicity at the limit of solubility
Toxicity to algae/aquatic plants	:	ErC50: ca. 641,000 mg/l Exposure time: 72 h Remarks: No toxicity at the limit of solubility
Toxicity to microorganisms	:	Remarks: Not applicable

Ecotoxicology Assessment

Toxicity Data on Soil	:	Not expected to adsorb on soil.

Persistence and degradability

Product:

Biodegradability	:	Result: rapidly biodegradable

Components:

Erythritol:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 73 % Exposure time: 21 d Method: OECD Test Guideline 301D
Biochemical Oxygen Demand (BOD)	:	329 mg/g Incubation time: 5 Days
Chemical Oxygen Demand (COD)	:	1,120 mg/g
Stability in water	:	Remarks: Not applicable

Bioaccumulative potential

Components:

Erythritol:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water	:	Remarks: No data available

Mobility in soil

Components:

Erythritol:

Distribution among environmental compartments	:	Remarks: No data available
Stability in soil	:	Remarks: Readily biodegradable.

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	No data available

Non-hazardous ingredients:

Erythritol:

Results of PBT and vPvB assessment	:	This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
Additional ecological information	:	This product has no known ecotoxicological effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Where possible recycling is preferred to disposal or incineration. In accordance with local and national regulations.
Contaminated packaging	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

DOT
Not regulated as a hazardous material

TDG
Not regulated as a dangerous good

Special precautions for user
Not applicable

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Fire Hazard
Combustible dust

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Erythritol	Not Assigned

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

The components of this product are reported in the following inventories:

TCSI	:	On the inventory, or in compliance with the inventory
EINECS	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	On the inventory, or in compliance with the inventory
TSCA_12b	:	Not applicable
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	Not in compliance with the inventoryErythritol
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory
REACH	:	On the inventory, or in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and

Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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