



Silver Fern Chemical, Inc.

Safety Data Sheet

Pentaerythritol (mono)

1. Identification

Product identifier	Pentaerythritol
Synonyms	PENTAERYTHRITOL * PENTAERYTRITOL * PENTAERYTRITOLI * PENTEK * PENTAERITRTITOL
Recommended use	As polyol in alky resins, polyester for urethane foams and coatings
Recommended restrictions	None known

Distributor	Silver Fern Chemical, Inc. 2226 Queen Anne Avenue North, Suite C Seattle, WA 98109, USA Phone: 1-866-282-3384	Business Contact Customer Service: 1-866-282-3384 info@silverfernchemical.com
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Emergency phone number	24 Hour Emergency Contact Infotrac 1-800-535-5053 (USA & Canada) Outside USA & Canada 1-352-323-3500
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2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	Not classified.

Label elements

Hazard symbol	None.
Signal word	None.
Hazard statement	The substance does not meet the criteria for classification.

Precautionary statement

Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC)	None known.
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Supplemental information	None.
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3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
PENTAERYTHRITOL	PENTAERYTHRITOL PENTAERYTRITOL PENTAERYTRITOLI PENTEK PENTAERITRTITOL	115-77-5	95-100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist. No specific treatment is necessary since this material is not likely to be hazardous by inhalation.
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Skin contact	Rinse with water.
Eye contact	Flush eyes with water as a precaution.
Ingestion	Drink water as a precaution. No need for first aid is anticipated if material is swallowed.
Most important symptoms/effects, acute and delayed	Irritation of eyes and mucous membranes. Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	No hazards which require special first aid measures.

5. Fire-fighting measures

Suitable extinguishing media	Large Fires: Water fog. Foam. Small Fires: Dry chemical powder. Dry chemical, CO2, water spray or regular foam. Fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Not a fire hazard.
Special protective equipment and precautions for firefighters	In the event of fire, wear self contained breathing apparatus.
Fire-fighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted. Not a fire hazard.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Avoid inhalation of dust from the spilled material. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Wear a dust mask if dust is generated above exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Dike far ahead of spill for later disposal. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Minimize dust generation and accumulation. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. None necessary.
Environmental precautions	No special environmental precautions required.

7. Handling and storage

Precautions for safe handling	No special handling advice required. Provide appropriate exhaust ventilation at places where dust is formed. Minimize dust generation and accumulation. Avoid breathing dust. Avoid contact with eyes. Avoid prolonged exposure. Practice good housekeeping.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Keep container tightly closed. Store in a well-ventilated place. No special storage conditions required. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value	Form
PENTAERYTHRITOL (CAS 115-77-5)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

US. ACGIH Threshold Limit Values

Material	Type	Value
PENTAERYTHRITOL (CAS 115-77-5)	TWA	10 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value	Form
PENTAERYTHRITOL (CAS 115-77-5)	TWA	5 mg/m ³	Respirable.
		10 mg/m ³	Total

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Use tight fitting goggles if dust is generated. Avoid contact with eyes.

Hand protection

Wear appropriate chemical resistant gloves.

Skin protection**Other**

Wear suitable protective clothing.

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Wear respirator with dust filter. Dust mask.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance****Physical state**

Solid.

Form

Powder.

Color

Not available.

Odor

Not available.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

500 °F (260 °C)

Initial boiling point and boiling range

528.8 °F (276 °C) 3.999671 kPa

Flash point

Not available.

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits**Flammability limit - lower (%)**

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

< 0.0000001 kPa at 25 °C

Vapor density	Not available.
Relative density	1.399 g/cm ³ at 25 °C
Solubility(ies)	
Solubility (water)	60 g/l at 59°F
Partition coefficient (n-octanol/water)	-1.7
Auto-ignition temperature	842 °F (450 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Bulk density	750 - 850 kg/m ³
Density	1.40 g/cm ³ estimated
Molecular formula	C ₅ -H ₁₂ -O ₄
Molecular weight	136.15 g/mol
Specific gravity	1.4 at 25 °C
VOC (Weight %)	100 % EPA estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	No hazards to be especially mentioned.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Inhalation of dusts may cause respiratory irritation. Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Dust in the eyes will cause irritation.

Symptoms related to the physical, chemical and toxicological characteristics Irritation of eyes and mucous membranes. Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Pentaerythritol (CAS 115-77-5)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 10000 mg/kg, 24 Hours
<i>Inhalation</i>		
LC50	Guinea pig, Mouse, Rabbit, Rat	> 0.29 mg/l, 4 Hours
	Rat	> 0.85 mg/l, 4 Hours
		> 0.3 mg/l, 8 Hours
<i>Oral</i>		
LD50	Guinea pig	11300 mg/kg
	Mouse	25500 mg/kg

Product	Species	Test Results
	Rat	> 2000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Dust in the eyes will cause irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful.

Further information This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity This material is not expected to be harmful to aquatic life.

Product	Species	Test Results
PENTAERYTHRITOL (CAS 115-77-5)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna)
		35026 - 45680 mg/l, 24 hours
		30477 - 37043 mg/l, 48 hours
Fish	LC50	Ide, silver or golden orfe (Leuciscus idus)
		> 5000 mg/l

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

-1.69

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information**DOT**

Not regulated as dangerous goods.

TDG

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

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

15. Regulatory information**US federal regulations**

All components are on the U.S. EPA TSCA Inventory List.

OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

CERCLA/SARA Hazardous Substances - Not applicable.
This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312

Yes

Hazardous chemical**SARA 313 (TRI reporting)**

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

PENTAERYTHRITOL (CAS 115-77-5)

US. New Jersey Worker and Community Right-to-Know Act

PENTAERYTHRITOL (CAS 115-77-5)

US. Pennsylvania Worker and Community Right-to-Know Law

PENTAERYTHRITOL (CAS 115-77-5)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 06-05-2015**Further information** HMIS® is a registered trade and service mark of the NPCA.**HMIS® ratings**
Health: 1
Flammability: 0
Physical hazard: 0**NFPA ratings**
Health: 1
Flammability: 0
Instability: 0**DISCLAIMER OF RESPONSIBILITY**

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