



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

# MATERIAL SAFETY DATA SHEETS

## SECTION I

### PRODUCT AND COMPANY IDENTIFICATION

**Product:** Dextrose anhydrous

**This MSDS is valid for all grades and catalog #'s**

Synonyms: Corn sugar; Dextrosol; Glucose; Aldohexose; Cerelese

Formula: C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>.H<sub>2</sub>O

Manufacturer: PHARMCO-AAPER  
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CHEMTREC 1-800-424-9300

## SECTION II

### COMPOSITION / INFORMATION ON INGREDIENTS

% by weight    Mat erial    CAS #    TLV/PEL    LC50/LD50

% by weight	Mat erial	CAS #	TLV/PEL	LC50/LD50
100	Dextrose anhydrous	50-99-7	TWA: 15 (mg/m <sup>3</sup> ) from OSHA (PEL) [United States] Inhalation Total. TWA: 5 (mg/m <sup>3</sup> ) from OSHA (PEL) [United States] Inhalation Respirable.	ORAL (LD50): Acute: 25800 mg/kg [Rat].

## SECTION III

### HAZARDS IDENTIFICATION

**Potential Acute Health Effects:** Slightly hazardous in case of eye contact (irritant), of ingestion, of inhalation. Non-irritant for skin.

**Potential Chronic Health Effects:**

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated or prolonged exposure is not known to aggravate

medical condition.

## SECTION IV

### FIRST AID

Obtain medical attention for all cases of over-exposure.

**Eye Contact:** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.

**Skin Contact:** Wash with soap and water. Get medical attention if irritation develops. Cold water may be used.

**Hazardous Skin Contact:** Not available.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Hazardous Inhalation:** Not available.

**Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

**Hazardous Ingestion:** Not available.

## SECTION V

### FIRE FIGHTING MEASURES

**Fire:**

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition temperature: Not available.

Flash point: Not available.

Flammable limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO<sub>2</sub>).

**Fire Hazards:** Slightly flammable to flammable in presence of heat.

**Explosion Hazards:** Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

**Fire Extinguishing Media:**

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Special Information:**

On Fire Hazards: As with most organic solids, fire is possible at elevated temperatures

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

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#### SECTION VI

##### SPILL/ACCIDENTAL RELEASE MEASURES

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:** Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

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#### SECTION VII

##### HANDLING AND STORAGE

**Precautions:** Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents.  
**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

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#### SECTION VIII

##### EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Safety glasses. Synthetic apron. Dust respirator. Use a dust respirator if ventilation is inadequate and/or if handling of material creates visible dust clouds. Be sure to use an approved/certified respirator or equivalent. Gloves (impervious).

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Particulates Not Otherwise Regulated: TWA: 15 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] Inhalation Total.

TWA: 5 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] Inhalation Respirable.

Consult local authorities for acceptable exposure limits.

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#### SECTION IX

##### PHYSICAL AND CHEMICAL PROPERTIES

**Physical State/Appearance:** Solid. (Crystalline). Powder. (Granular solid.)

**Molecular Weight:** 180.16 g/mole

**Odor:** Odorless.

**Taste:** Sweet.

**Color:** White

**pH (1% Solution in Water):** Not available.

**Boiling Point:** Not available.

**Melting Point:** 146°C (294.8°F)

**Critical Temperature:** Not available.

**Specific Gravity:** 1.544 (Water = 1)

**Vapor Pressure (mm Hg):** Not applicable.

**Vapor Density (Air=1):** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Water/Oil Dist. Coefficient:** The product is more soluble in water; log(oil/water) = -3.2

**Ionicity (in water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:**

Easily soluble in hot water.

Soluble in cold water.

Very slightly soluble in methanol, diethyl ether, acetone.

Soluble in Pyridine, Aniline, hot Glacial Acetic Acid, hot Methanol

Slightly soluble in alcohol.

Solubility in Water: 1200 gm/l or 1g/0.8 ml @ 30 deg.

C.; 1 g/1.1 ml @ 25 deg. C; 1 g/0.41 ml @ 50 deg. C;

1g/0.28 ml @ 70 deg. C; 1 g/0.18 ml @ 90 deg. C.

Solubility in Methanol: 1 g/120 ml @ 20 deg. C

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#### SECTION X

##### STABILITY/REACTIVITY INFORMATION

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Excess heat, incompatible materials, dust generation.

**Incompatibilities:** Reactive with oxidizing agents.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Information:**

On Reactivity: Reacts with oxidizing agents such as cupric hydroxide, and Sodium peroxide + Potassium nitrate. The alpha-D-glucose hydrate is stable in crystalline form below 50 deg. C

On Corrosivity: Not Available

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#### SECTION XI

##### TOXICOLOGICAL INFORMATION

**Routes of Entry:** Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 25800 mg/kg [Rat].

**Chronic Effects on Humans:** MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.

**Other Toxic Effects on Humans:** Slightly hazardous in case of ingestion, of inhalation. Non-irritant for skin.

**Special Information on Toxicity to Animals:**

Lowest Published Lethal Dose/Conc (LDL):

LDL[Dog] - Route: oral; Dose: 8000 mg/kg

LDL[Rabbit] - Route: oral; Dose: 20000 mg/kg

**Special Information on Chronic Effects/Toxicity on Humans:**

*Chronic Effects on Humans:* passes the placental barrier. May affect genetic material (mutagenic). May cause adverse reproductive effects and birth defects (teratogenic) based on animal test data. Also, concern about the effects of Glucose on human embryonic development are based on the finding that infants of diabetic women and women who develop gestational diabetes have an increased incidence of congenital anomalies. The most common abnormalities are cardiac and neural tube defects. With more strict control of diabetes, the congenital anomaly rate appears to be decreased, provided such control is instituted early in pregnancy. The findings suggest, but do not prove that an elevated glucose level in maternal blood is the teratogenic principle in diabetic pregnancies.

*Toxic Effects on Humans:*

Acute Potential Health Effects:

Skin: Low Hazard. Not expected to cause skin irritation. However, it may cause skin irritation in sensitive individuals.

Eyes: Dust may cause eye irritation.

Inhalation: No hazard expected for normal industrial handling. Dust may cause respiratory tract irritation.

Ingestion: No hazard expected for normal industrial handling. Ingestion of very large amount may cause gastrointestinal tract upset/disturbances. Symptoms may include hypermotility and diarrhea.

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SECTION XII

ECOLOGICAL INFORMATION

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Information on Products of Biodegradation:** Not available

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SECTION XIII

DISPOSAL CONSIDERATIONS

**Waste Disposal:** Recycle to process, if possible. Consult your local or regional authorities.

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SECTION XIV

TRANSPORTATION INFORMATION

**DOT Classification:** DOT Not a DOT controlled material (United States).

**UN:** Not applicable.

**Special Provisions for Transport:** Not applicable.

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SECTION XV

REGULATORY INFORMATION

**Federal and State Regulations:**

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). Components present in

this product at a level which could require reporting under the statute are: **NONE**

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual report release of toxic chemicals that appear in 40 CFR 372 (used for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are: **NONE**

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of Hazardous Substances equal or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are: **NONE**

**Other Classifications:**

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC): Not available

**Protective Equipment:**

Gloves (impervious).

Synthetic apron.

Dust respirator. Be sure to use an approved/certified respirator or equivalent.

Safety glasses.

**References:** Not available.

**Other Special Considerations:** Uses: Therapeutic category: fluid and nutrient replenisher; confectionary; infant foods; food component; medicine; brewing and wine making; intermediate; carmel coloring; baking and canning; source of methane by anaerobic fermentation

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The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable, PHARMCO-AAPER assumes not responsibility for the completeness or accuracy of the information contained herein.