



AMERICAN CRYSTAL SUGAR COMPANY

GHS SAFETY DATA SHEET

Prepared to U.S. OSHA Standards in compliance with the GHS system (29 CFR 1910.1200(g), rev. 2012)

<p>Section 1</p>	<p>Identification</p>	<p style="text-align: center;"><u>POWDERED SUGAR</u></p> <p>Manufacturer's Name American Crystal Sugar Co. 101 North 3rd Street Moorhead, MN 56560</p> <p>Emergency Telephone Number: (218) 236-4400</p> <p>Telephone Number for Information (218) 236-4324</p>	<p>food additive, flavor enhancer, baking ingredient, intended for human consumption</p> <p>No restrictions on use</p> <p>Preparation Date: 21 November 2014</p> <p>Revised: New</p>
<p>Section 2</p>	<p>Hazard(s) Identification</p>	<p>No Hazardous Components</p> <p>Sugar and starch support combustion only poorly and are not by themselves hazards unless they are involved as secondary fuels in an existing fire.</p>	<p>The dust generated by the transportation and handling of sugar is an explosion hazard; measures must be taken to avoid the creation of fugitive dust and to abate any dust created.</p>
<p>Section 3</p>	<p>Composition / Information on Ingredients</p>	<p>Sucrose, sugar, saccharose; C₁₂ H₂₂ O₁₁ : 97%</p> <p>IUPAC: (2<i>R</i>,3<i>R</i>,4<i>S</i>,5<i>S</i>,6<i>R</i>)-2-[(2<i>S</i>,3<i>S</i>,4<i>S</i>,5<i>R</i>)-3,4-dihydroxy-2,5-bis(hydroxymethyl)oxolan-2-yl]oxy-6-(hydroxymethyl)oxane-3,4,5-triol]</p> <p>Corn starch: 3%</p>	<p>Table sugar, beet sugar, natural sweetener</p> <p>CAS 57-50-1 UNII C151H8M554 EINECS 200-334-9 RTECS WN6500000</p> <p>CAS 9005-25-8 RTECS C151H8M554 EINECS 232-679-6</p>
<p>Section 4</p>	<p>First Aid Measures</p>	<p>INHALED: not expected to require first aid. Exposure to dust may aggravate pre-existing respiratory conditions. Remove to fresh air; get medical attention for any breathing difficulty.</p>	<p>EYES: Possible mechanical irritant. Flush granular material with running water, holding eyelids open. Get medical help if symptoms persist.</p>

<p>Section 5</p> <p>Section 5</p>	<p>Fire-Fighting Measures</p>	<p>Use water or other approved media. Avoid creating airborne dust with high pressure water streams; the use of a fine spray to saturate the material is suitable for any firefighting.</p> <p>monoxide.</p> <p>Normal fire dept SOP for precautions and PPE.</p>	<p>Sugar dust is explosive, similar to flour and grain products. Though sugar itself supports combustion poorly, the relative explosion hazard of the dust is severe. As with any finely divided organic (carbon-based) solid, dust may be explosive if mixed with air in critical proportions and in the presence of an ignition source possibly resulting in chain reaction-style, serial explosions.</p>
<p>Section 6</p>	<p>Accidental Release Measures</p>	<p>To mitigate possible dust hazard:</p> <ul style="list-style-type: none"> • remove ignition sources • avoid dispersing dust into the air • ventilate area of spill <p>use non -sparking tools</p>	<p>Clean-up personnel should wear non-slip footwear. Sweep or scoop up spill for recovery or disposal and place into a closed container. Non-toxic and biodegradable. Whatever cannot be saved for recovery may be discarded as permitted by applicable regulations.</p>
<p>Section 7</p>	<p>Handling and Storage</p>	<p>Avoid handling techniques which are capable of producing and/or dispersing fugitive dust.</p> <p>Remove ignition sources.</p>	<p>Store in doors in areas of low humidity away from sources of moisture.</p>
<p>Section 8</p>	<p>Exposure Controls / Personal Protection</p>	<p>None normally required. Inhalation of high concentrations of the dust may cause coughing and upper respiratory tract irritation. In dusty situation, a NIOSH-approved respirator for dust may be worn. Pre-existing respiratory conditions: use approved mask.</p>	<p>In cases of water being used to flush spilled material, floors and steps may become sticky; wear non-slip footwear and use caution when negotiating floors and steps.</p> <p>Wearing of contact lenses when handling product should be avoided.</p> <p>Wear protective goggles.</p>

Section 9	Physical and Chemical Properties	Melting Point (sucrose)	160 - 186°C (320 - 367°F)	Flash Point	N/A
		Boiling Point	N/A	Flammable Limits	N/A
		Specific Gravity (H ₂ O = 1)	1.587 (sucrose)	LEL (sucrose)	dust 20 g/m ³
		Solubility in Water:		UEL (sucrose)	dust 15 k g/m ³
		Vapor Pressure (mm Hg.)	N/A	Appearance and Odor: Very finely-powdered, white, crystalline solid; odorless.	
		Vapor Density (AIR = 1)	N/A		
		Evaporation Rate Butyl Acetate = 1)	N/A		
		Solubility in Water:			
<p>Sucrose: 2.07 grams per gram water @25° 331 grams per 100 grams water @ 70°C;</p> <p>Starch gelatinizes in hot water.</p>					
Section 10	Stability and Reactivity	<p>Stable under ordinary conditions of use and storage. Hazardous polymerization will NOT occur.</p> <p>Avoid temperatures above 160° F (70°C); heat, flames, ignition sources, and incompatibles.</p>	<p>Avoid strong oxidizers (e.g. nitric acid or sulfuric acid).</p> <p>Thermal decomposition or burning dried material will produce carbon dioxide, carbon monoxide.</p>		
Section 11	Toxicological Information	<p>Non-toxic</p> <p>LD50 (sucrose): 29,700 mg/kg (oral, rat): Respiratory cyanosis</p>	Product contains no ingredients currently classified as carcinogenic by NTP, IARC, or OSHA.		
Section 12	Ecological Information (non-mandatory)	Non-toxic and biodegradable.			
Section 13	Disposal Considerations (non-mandatory)	Whatever cannot be saved for recovery may be discarded as permitted by applicable regulations.			
Section 14	Transport Information (non-mandatory)	Not applicable			
Section 15	Regulatory Information (non-mandatory)	Not ordinarily regulated. (Note some countries do have import quotas which restrict total amount of sugar entering their borders.)			

Section 16	Other Information	Note: sugar and starch dusts are explosive, similar to flour and grain products (values given here are for sucrose only)	
		Ignition temperature of dust cloud	350 °C
		Minimum igniting energy	< 10mJ
		Minimum explosion concentration	0.035 oz / cu ft
		Maximum explosion pressure	9 bar
		Maximum rate of pressure rise	5,000 psi / sec
		Minimum exposable concentration in air:	0.045 g/L