	<b>SQE – SYSTEM ENERGY QUALITY</b>	<b>Start date:</b> 06/22/2020	<b>VERSION:</b> 00
		<b>FISPQ.ENEFF-001</b>	
<b>Plug Information Security of Chemicals</b>	<b>CRYSTAL SUGAR</b>		

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name (Trade Name):** Crystal Sugar

**Company Name:** Energy Comercial Importadora e Exportadora LTDA

**Address:** Rod. Antônio Rossi S / N Km 02 Neighborhood: Cambará, Elias

Fausto- SP CEP: 13.350-000

**Emergency Telephone:** (19) 3800-3100

**E-mail:** www.energy.com.br

## 2. HAZARDS IDENTIFICATION

- **Classification of substances**

**Most important hazards:** Non-hazardous product according to criteria European standard on the classification of dangerous substances.


In the form of dust, finely divided, in sufficient concentration and in the presence of an ignition source can pose a risk of explosion. Dry dust can generate electrostatic charge and cause sparks promoting this ignition. Causes eye irritation by action mechanics. May cause skin irritation and respiratory tract.

- **Product Effects**

**Adverse human health effects:** Non-toxic. Ingestion of large amounts can cause gastrointestinal disturbances. Can destabilize people with diabetes.

**Environmental Effects:** In the aquatic environment, in large quantities, it can cause damage to species by increasing oxygen demand.

**Physical and chemical hazards:** Combustible product. Very fire risk low. Finely divided can form explosive atmospheres with air.

	<b>SQE – SYSTEM ENERGY QUALITY</b>	<b>Start date:</b> 06/22/2020	<b>VERSION:</b> 00
		<b>FISPQ.ENEFF-001</b>	
<b>Plug Information Security of Chemicals</b>	<b>CRYSTAL SUGAR</b>		

- **Main symptoms**

**Ingestion:** In large quantities it can cause discomfort, discomfort and irritation.

**Inhalation:** Excessive concentrations of dust may cause irritation of the upper respiratory tract and affect people with respiratory function deficient and respiratory diseases (emphysema or chronic bronchitis). Prolonged and repeated exposure can cause nasal discharge.

**Eye contact:** May cause irritation by mechanical action. Prolonged and repeated contact can cause dermatitis.

**Skin contact:** Acute effects are not expected. Contact prolonged and repeated may cause mild irritation.

**Concern phrase:** Do not spray on an open flame or other ignition source. Avoid the accumulation of electrostatic charge

### 3. COMPOSITION AND INFORMATION ABOUT INGREDIENTS

#### Substance

**Chemical name:** Sucrose (C 12 H 22 O 11 )

**Synonym:** D- Sucrose; α- D- glucopyranes yl-β-D- fructofuranoside (> 99.80%)


**CAS number:** 57-50-1

### 4. FIRST AID ACTIONS

#### First aid actions

**Inhalation:** Remove the victim to a cool place. If the victim is not breathing, apply artificial respiration. If you are breathing with difficulty, administer oxygen. Seek medical assistance immediately.

**Skin contact:** Remove clothing and shoes. Wash skin with clean, running water in abundance for at least 20 minutes, preferably under an emergency shower.

	<b>SQE – SYSTEM ENERGY QUALITY</b>	<b>Start date:</b> 06/22/2020	<b>VERSION:</b> 00
		<b>FISPQ.ENEFF-001</b>	
<b>Plug Information Security of Chemicals</b>	<b>CRYSTAL SUGAR</b>		

**Eye contact:** First check if the victim has lenses contact. If so, remove it and wash your eyes with clean running water in abundance, for at least 20 minutes, keeping the eyelids separate. Preferably use an eye wash. Search for medical assistance immediately, always taking the product label as possible.

**Ingestion:** If the victim is fully conscious, wash his mouth with plenty of clean water. In cases of ingestion of large quantities and according to the medical evaluation can be indicated the gastric lavage. Such intervention can only be carried out under assistance doctor.

**Actions to be avoided:** Do not give anything to drink if the victim unconscious. Do not leave the victim unattended, taking care to that the airways are kept free.

**Protection for the aid provider:** In rescue operations use autonomous respiratory protection equipment.

**Notes to the doctor:** Symptomatic treatment must include, above all, supportive measures such as correction of metabolic disorders, in addition to respiratory assistance.

## 5. FIRE FIGHTING MEASURES


**Suitable extinguishing media:** Multi-purpose foam, water fog, chemical powder and carbon dioxide.

**Extinguishing media not recommended:** Water jets. Application of water directly on the burning material.

**Specific hazards related to measures:** Combustible product. The Explosion hazards are uncommon. However, the dust in the concentration enough and in the presence of an ignition source it can pose a risk explosion potential. Avoid the formation and dispersion of dust. O combustion product releases toxic fumes.

**Special Fire Fighting Methods:** Dust Removal with water fog.

**Protection of people involved in fire fighting:** Protection complete for fire and autonomous respiratory protection equipment.

	<b>SQE – SYSTEM ENERGY QUALITY</b>	<b>Start date:</b> 06/22/2020	<b>VERSION:</b> 00
		<b>FISPQ.ENEFF-001</b>	
<b>Plug Information Security of Chemicals</b>	<b>CRYSTAL SUGAR</b>		

## 6. CONTROL MEASURES FOR SPILL OR LEAK

- **Personal precautions**

**Removal of ignition sources:** Eliminate all possible sources of ignition such as open flames, electrical or mechanical sparks, cigarettes, electrical circuits etc. Prevent the use of any action or procedure that causes dust generation. Isolate the area. Keep people with no function in emergency care are removed. Signal the danger to traffic, and warn or have local authorities warned competent authorities.

**Prevention of inhalation and contact with skin, mucous membranes and eyes:** Avoid inhalation, contact with eyes and skin. Use personal protection as described in section 8.

**Environmental precautions:** Prevent the product or water from emergency assistance reach water courses, channels, culverts or sewer galleries. Avoid the formation and dispersion of dust.

- **Methods for cleaning**

**Prohibition:** Do not use water without specific guidance.

**Recovery:** Remove as much of the spilled product as possible and an emergency container, properly labeled and tightly closed, for later disposal.


**Cleaning / Decontamination:** Collect non-recoverable material, the contaminated soil and material to another independent container

**Disposal:** Do not dispose of it in general waste. The final disposition of this material must be accompanied by a specialist and in accordance with the current environmental legislation.

## 7. HANDLING AND STORAGE

- **Handling**

**Appropriate Technical Measures**

	<b>SQE – SYSTEM ENERGY QUALITY</b>	<b>Start date:</b> 06/22/2020	<b>VERSION:</b> 00
		<b>FISPQ.ENEFF-001</b>	
<b>Plug Information Security of Chemicals</b>	<b>CRYSTAL SUGAR</b>		

**Prevention of worker exposure:** Avoid inhalation of dust and contact with skin, eyes and clothing. Wear protective equipment when handling the product, described in section 8.

**Fire and explosion prevention:** Avoid the formation of dust and sparks of electrical origin, static electricity, etc. Do not smoke. Not make transfers under air pressure or oxygen.

**Precautions and guidelines for safe handling:** Handle the product only in well-ventilated areas or with ventilation systems general / suitable location. Avoid the formation and dispersion of dust.

**Hygiene Measures:** Respect the general rules of safety and hygiene industrial.

- **Storage**

#### **Technical Measures**

**Adequate conditions:** Electrical installations must comply with with NEC (National Electrical Code) or IEC (International Electrical Commission) and / or ABNT (Brazilian Association of Standards Techniques). Keep the product away from heat sources and ignition. Keep containers in a cool, dry, ventilated place, well closed and properly identified.

**Conditions to avoid:** Static charge, sparks, flames heat, and other sources of ignition.

#### **Packaging materials**

**Not recommended:** Metals.

**Recommended:** Polypropylene.


**Large packages:** Big Bags.

### **8. EXPOSURE CONTROL AND PERSONAL PROTECTION**

- **Specific control parameters**

#### **Appropriate technical measures**

**Limit values (USA, ACGIH- 2011):** Total dust : TLC / TWA = 10mg / M<sup>3</sup>

	<b>SQE – SYSTEM ENERGY QUALITY</b>	<b>Start date:</b> 06/22/2020	<b>VERSION:</b> 00
		<b>FISPQ.ENEFF-001</b>	
<b>Plug Information Security of Chemicals</b>	<b>CRYSTAL SUGAR</b>		

**Recommended monitoring procedures:** Monitoring environment and personnel at regular intervals. Quantitative method for sampling in the work environment over time periods representative of the exhibition.

**Engineering control measures:** Promote general ventilation diluter combined with exhaust fan, especially when there is dust formation of the product. It is recommended to make available emergency showers and eye washers in the workplace and storage.

- **Proper personal protective equipment**

**Hand protection :** Impervious gloves.

**Eye / face protection:** Airtight Safety Glasses (with indirect ventilation) for chemical products, whenever there is generation of dust.

**Skin and body protection:** Not applicable.

**Respiratory protection:** It is recommended to use a respirator with dust filter. The use and users of protective equipment respiratory system must be included in the Protection Program Respiratory.

**Special precautions:** Avoid wearing contact lenses while handles this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance (physical state, shape, color):** Solid, Crystal / Dust, white.

**Odor:** Smooth green cane.

**Color:** White or yellowish.


**Molecular Weight:** 342.20.

**pH:** ± 7 (neutral).

**Melting point:** 185-186 °C.

**Flash Point:** 285°C

**Thermal decomposition:** > 169 ° C.

	<b>SQE – SYSTEM ENERGY QUALITY</b>	<b>Start date:</b> 06/22/2020	<b>VERSION:</b> 00
		<b>FISPQ.ENEFF-001</b>	
<b>Plug Information Security of Chemicals</b>	<b>CRYSTAL SUGAR</b>		

### Explosivity Features

**Minimum explosion concentration (dust-based study with 200 # particle size ( $dp \leq 74 \mu m$ )):** 0.045g / L,% O2 minimum

**Relative density:** 1.587 g / cm<sup>3</sup>

**Solubility in water (25°C):** 67.3%.

**Solubility other solvents:** Alcohol, methanol, glycerol, pyridine.

### 10. STABILITY AND REACTIVITY

**Chemical stability:** Stable when stored under normal conditions temperature and humidity.

**Conditions to avoid:** Flames, ignition sources, substances incompatible.

**Incompatible materials or substances:** Oxidizing agents, Sulfuric acid, Nitric acid, potassium hydroxide and sodium hydroxide.

**Hazardous decomposition products:** Can produce CO<sub>2</sub> and CO if heated until decomposition.

### 11. TOXICOLOGICAL INFORMATION


**Information according to the different exposure routes**

**Toxicity**

**Specific effects:** Not classified as a carcinogen when human.

### 12. ECOLOGICAL INFORMATION

**Environmental effects, behaviors and product impacts**

	<b>SQE – SYSTEM ENERGY QUALITY</b>	<b>Start date:</b> 06/22/2020	<b>VERSION:</b> 00
		<b>FISPQ.ENEFF-001</b>	
<b>Plug Information Security of Chemicals</b>	<b>CRYSTAL SUGAR</b>		

**Eco toxicity:** In case of large spills of the product, be dangerous for the environment due to the high concentration of organic matter, can decrease dissolved oxygen levels.

**BOD (5 days):** 69%.

**Biodegradation:** Biodegradable.

**Bioaccumulative potential:** -3.67 (Calculated). No accumulation biological should be expected (log P (o / w <1).

**Eco-toxicological effects:** Quantitative data on the ecological effect are available.

### 13. CONSIDERATIONS ON TREATMENT AND DISPOSAL

- **Recommended treatment and disposal methods applied to:**

**Product:** Do not discard directly into sewage systems and water courses Water. Recycle any unused portion of the product for your uses recommended or return it to the manufacturer or supplier. Others methods consult current environmental legislation (Federal, State and Municipal).

**Product remains:** Do not dispose of directly in sewers and water courses. Keep leftover product in its packaging duly closed and identified. Disposal should be carried out in accordance with current legislation and regulations. Incineration in an authorized installation is recommended.


**Used packaging :** Never reuse empty packaging as it may contain product leftovers and must be kept closed and forwarded for destruction in an appropriate location.

**Prohibition:** Do not reuse packaging.

**Decontamination / Cleaning:** Empty the contents completely.

**Destruction / Disposal:** Forward packaging to installation authorized to collect waste, in accordance with legislation and regulations in force.



	<b>SQE – SYSTEM ENERGY QUALITY</b>	<b>Start date:</b> 06/22/2020	<b>VERSION:</b> 00
		<b>FISPQ.ENEFF-001</b>	
<b>Plug Information Security of Chemicals</b>	<b>CRYSTAL SUGAR</b>		

**NOTE:** The user's attention is drawn to the possible existence of local disposal regulations that concern you.

#### 14. TRANSPORT INFORMATION

Product not covered by the Ministry of Transport Ordinance in force on the transport of dangerous products.

#### 15. REGULATIONS


**Regulations:** Standard ABNT\_NBR 14725-4: 2009

**NOTE:** The regulatory information indicated in this section refers to only the main requirements specifically applicable to the product object of the MSDS. The user's attention is drawn to the possible existence other provisions that complement these requirements. It is recommended take into account any type of international measures or provisions, national or local, of possible application. Any other form of use product, other than the recommended one, involving its combination with other materials, it is the user's responsibility.

#### 16. OTHER INFORMATION

**Use:** Suitable for domestic and industrial use.

**NOTE:** Any other way of using the product, other than the recommended, involving its combination with other materials, is user responsibility.

	<b>SQE – SYSTEM ENERGY QUALITY</b>	<b>Start date:</b> 06/22/2020	<b>VERSION:</b> 00
		<b>FISPQ.ENEFF-001</b>	
<b>Plug Information Security of Chemicals</b>	<b>CRYSTAL SUGAR</b>		

## 17. HISTÓRICO DE REVISÕES

REVIEW	DATE	DESCRIPTION (S) CHANGE (S)
00	06/22/2020	Initial elaboration.

Elaborated by: Ione Dias Ribeiro	Approved by: Marcos Brandolt
----------------------------------	------------------------------