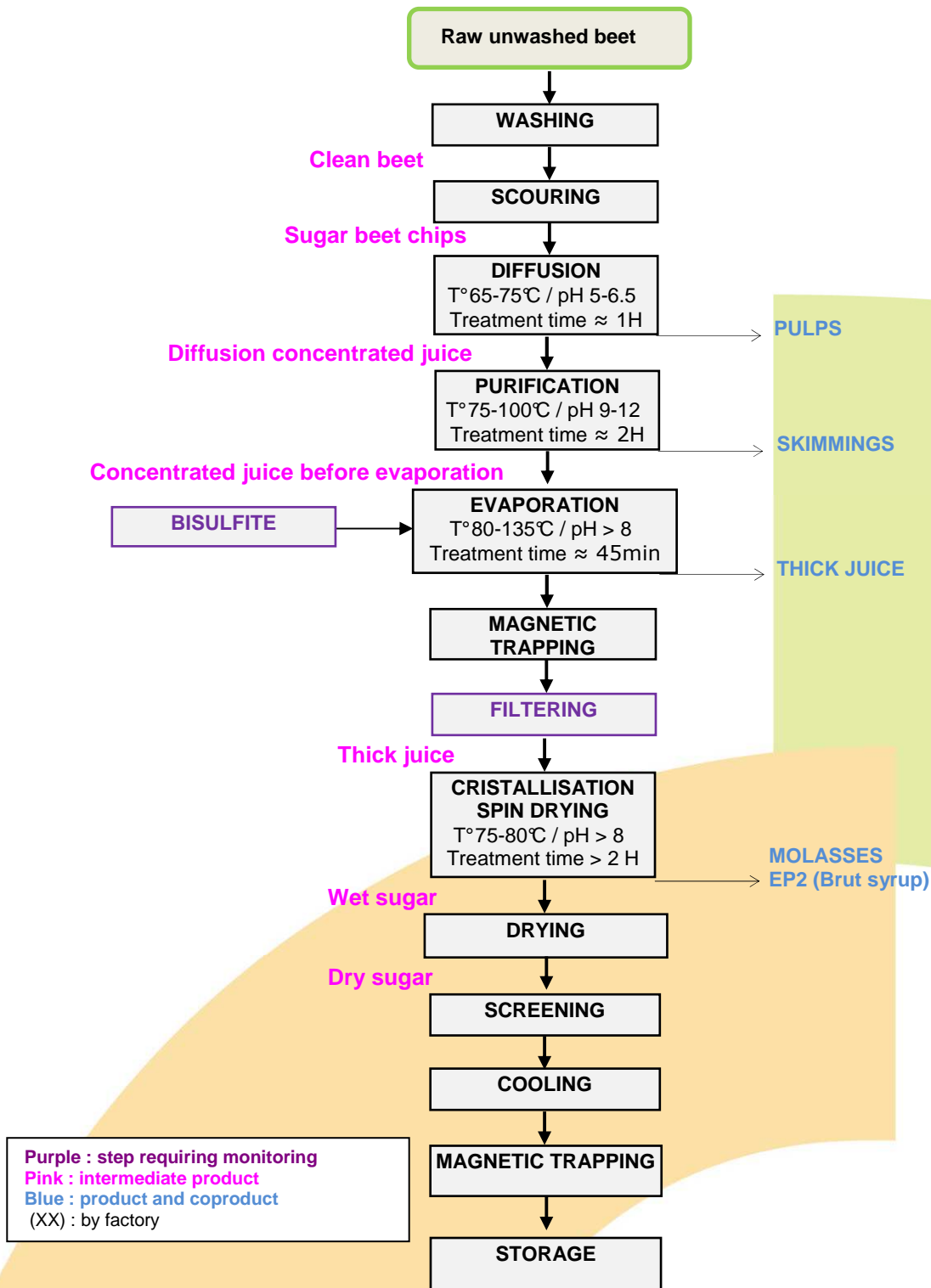


**HACCP IN CRISTAL SUGAR**

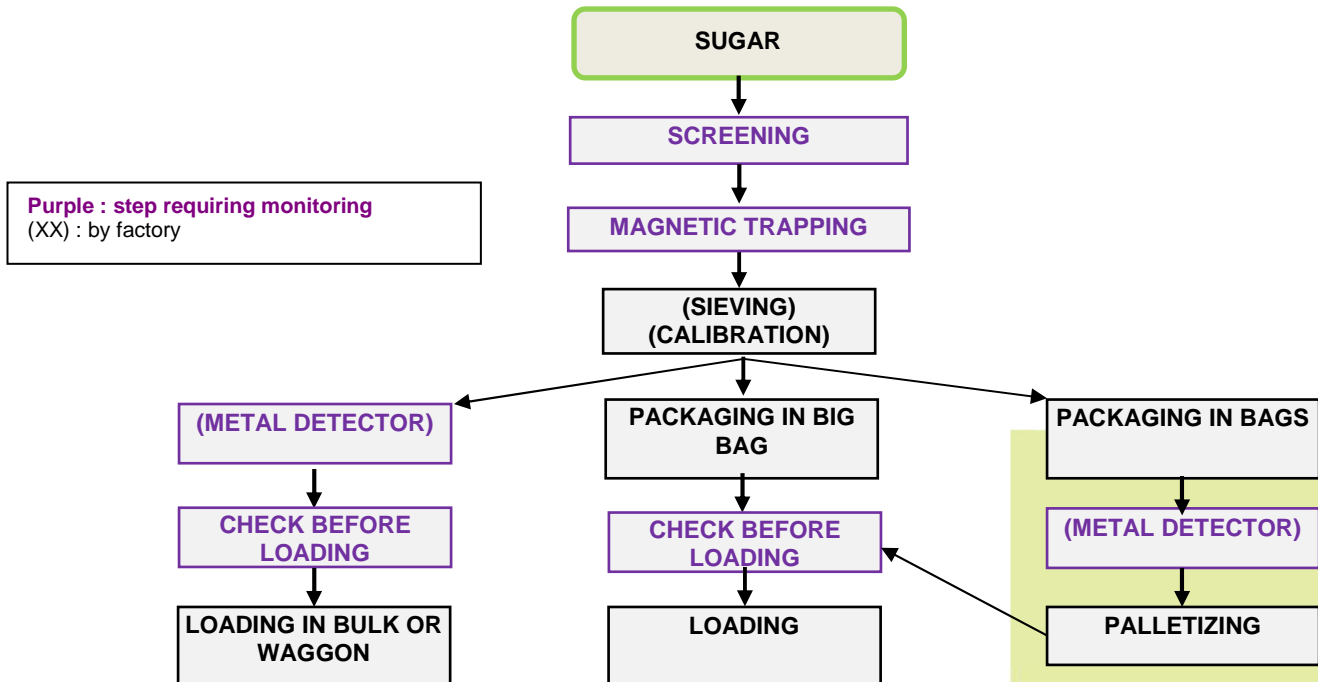
**1/ SUGAR PRODUCTION FLOWCHART :**

**A/ From manufacturing to storage**

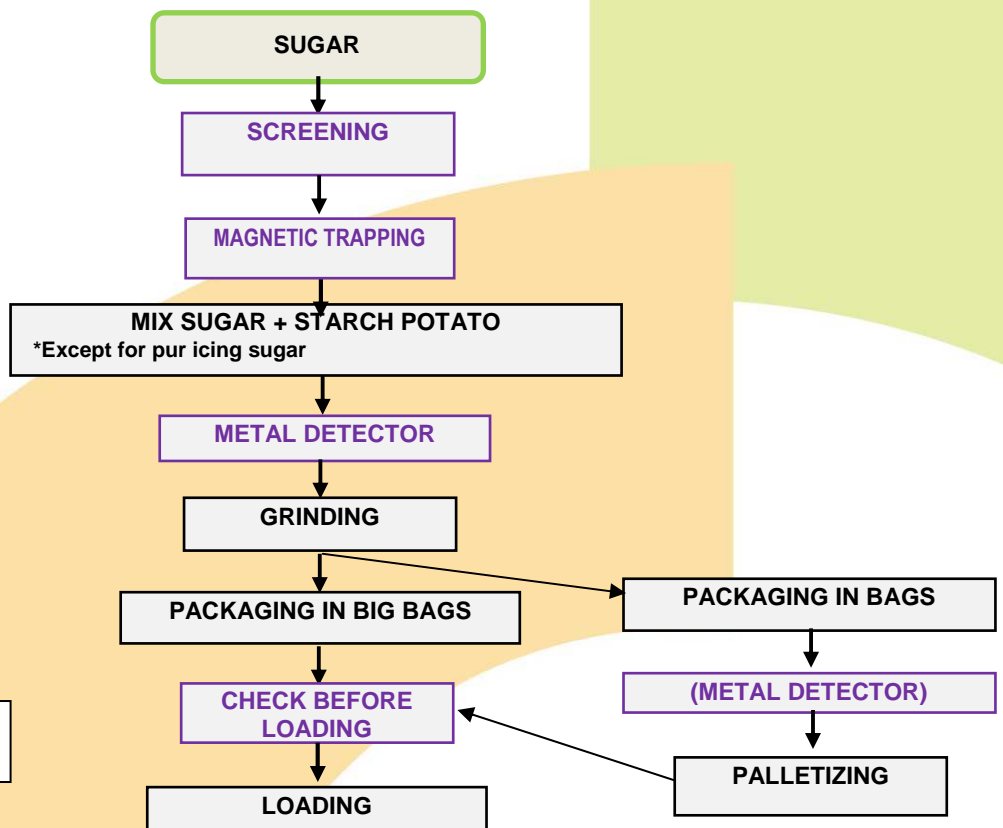


## B/ From storage to loading

### CRISTAL SUGAR



### ICING SUGAR



## 2/ List of potential dangers :

CHEMICAL	PHYSICAL	BIOLOGICAL	ALLERGENS
<ul style="list-style-type: none"> <li>✓ Technological production auxiliaries</li> <li>✓ Phytosanitary products</li> <li>✓ Cleaning products</li> <li>✓ Maintenance and silo safety products</li> <li>✓ Insecticides and anti-vermin products</li> <li>✓ Material un contact with sugar</li> <li>✓ Marking ink</li> <li>✓ Heavy metals</li> <li>✓ Coolant</li> </ul>	<ul style="list-style-type: none"> <li>✓ Glass/Hard plastics</li> <li>✓ Wood</li> <li>✓ Wear material</li> <li>✓ Metals parts</li> <li>✓ Other accessories (fabric, tools, pens, jewellery...)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Development of flora</li> <li>✓ Rodents, insects, birds</li> </ul>	<ul style="list-style-type: none"> <li>✓ SO<sub>2</sub>, a chemical agent classified as allergenic in a concentration &gt;10mg/kg in the product</li> </ul>

The HACCP study led to totally eliminate the following hazards:

- *Ionised products*
- *ESB*
- *Radioactivity*
- *Presence of GMO*
- *Mycotoxins*
- *Dioxine / HAP*

**3/ Means of controlling the steps to monitor :**

STEP or control measure	DANGER ASSOCIATED	WATCH	FREQUENCY
BISULFITE	Allergen	Alarm of the bisulfite flow (limit = max 150g of SO <sub>2</sub> /tonne of beets)	Continuous
FILTRATION BEFORE CRYSTALLISATION	Foreign body	Measuring pressure or depression with alarm when bag filters (limit factory fitted). Presence control filter if metallic filter	Continuous
SIEVING	Foreign body	Visual inspection sieve size or sugar (Limit = max 3mm)	Minimum once per week
LAST MAGNETIC TRAPPING	Foreign body	Amount collected (limit adapted by plant)	Minimum once per week
METAL DETECTOR	Foreign body	Control with standard piece Limit max : Ferrous 4mm Non Ferrous 5 mm Stainless steel 5 mm	Minimum once per day
LOADING IN BULK AND WAGGON	Allergen and Foreign body	Administrative and visual inspection	Before each loading

#### 4/ GMP :

- INFRASTRUCTURES :
  - o Access control.
  - o Zoning.
  - o Glass/wood/hard plastic policy.
- EQUIPMENT / MATERIAL :
  - o Hygienic design.
  - o Cutting tools banned or controlled use.
  - o Overturned circuits.
- METROLOGY EQUIPMENT :
  - o Monitoring / recording/ archiving.
- GOOD PRACTICES OF MAINTENANCE :
  - o Compliance with good practice.
  - o Repairs sustainable.
  - o Protection of facilities and product when working.
- CLEANING AND DISINFECTION :
  - o Cleaning program with product definition to use and registration.
  - o Use of food brushes.
- INCOMING MATERIAL :
  - o Control over agricultural upstream.
- WASTE TREATMENT :
  - o Management of waste sorting and recycling.
- PEST CONTROL :
  - o Building and doors closed and sealed.
  - o Using traps and insect killers.
  - o Sanitation carried out by an external company
- LABOR AND VISITORS
  - o Compliance with Food Hygiene Safety instructions.
  - o Control access to specific areas.
  - o Using of detectable dressings.
  - o No smoking, eating and drinking places of production.
  - o Wearing a specific outfit.
  - o Prohibition of wearing jewelry, watches, piercing...(alliance tolerated)
  - o Training of personnel rules Hygiene Food Safety and CCP/PRPO
- METHOD AND MANAGEMENT STAFF
  - o Display of setpoints.
  - o Procedure broken glass.
  - o Management of chemicals.
- TRACING AND CRISIS MANAGEMENT
  - o Traceability according to regulations.
  - o Identification of the finished product with a lot number.
  - o Upstream and downstream traceability (primary packaging and finished product).
  - o Management of non-complaint products.
  - o Manual Procedure crisis management.
  - o Test traceability and withdrawal / recall product tested regularly.

- PRACTICE DOCUMENTARY
  - o Recording results legibly.
  - o Documentation force available.
- TRANSPORT :
  - o Specification with carriers.
  - o Checks before loading.

The information of this specification is presented in good faith. Whilst care has been taken to ensure accuracy, legal liability is excluded to the extent permitted by current legislation. This document is likely to be updated without advance notice.