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1.0. Purpose

- 1.1 The purpose of this Specification is to ensure that risks associated with waste are managed.
- 1.2 Focus on pollution preventions from source by 'reducing, reusing and recycling'.

2.0. Scope

This specification applies to all Departments and Operations of the Eston Mill Centre of Illovo Sugar.

3.0. References

- 3.1 NOSA Element 1.24
- 3.2 ISO 14001 and NOSA CMB 001 Clause 4.4.6 & 4.3.1
- 3.3 All National and Provincial legislation, Codes of Practice and Local Authority By-Laws to which the business subscribes
- 3.4 IIRMS

4.0. Abbreviations, Acronyms and Definitions

For the purposes of this specification, the following abbreviations and definitions apply:

4.1 WASTE

Waste means any matter whether gas, liquid or solid or any combination thereof which is from time to time designated by the minister by notice in the gazette as an undesirable or superfluous by product, emission or residue or remainder of any process activity. Please check updated definitions of waste: genral and hazardous.

5.0. Responsibility

This specification places responsibility on:

- 5.1.1 Line/ Departmental Managers are responsible for ensuring that the requirements of this Specification are met.
- 5.1 2 Senior Manager to support markets for recycled materials and products e.g. EcoPurchasing.

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5.1 3 Risk Manager to maintain all permits and certificated for waste generation, storage, transportation, cross boundary movement and safe disposal.

5.1 4 Determine as to whether the waste is reusable or recyclable.

5.2 Person in purchasing

5.2.1 Implement good purchasing practices by:

5.2.2 Avoiding purchases which may lead to excessive waste generation.

5.2.3 Purchasing of recyclable material (see definition) options.

5.2.4 Selecting products that create the least amount of waste and toxicity (this in termed Eco-Purchasing).

6.0. Specification

1. PROCESS FLOWCHART

1.1 Illovo Sugar adopts an integrated approach to waste management. Integrated waste management is the management of the entire waste processes including generation, storage, collection, transportation, resource recovery, treatment and disposal. Integrated waste management employees several waste control methods based on the waste hierarchy including avoidance, reduction, recycling, reuse, recovery, treatment and disposal, aimed at minimising the environmental impact of waste. The integrated waste management process is illustrated in Figure 1.

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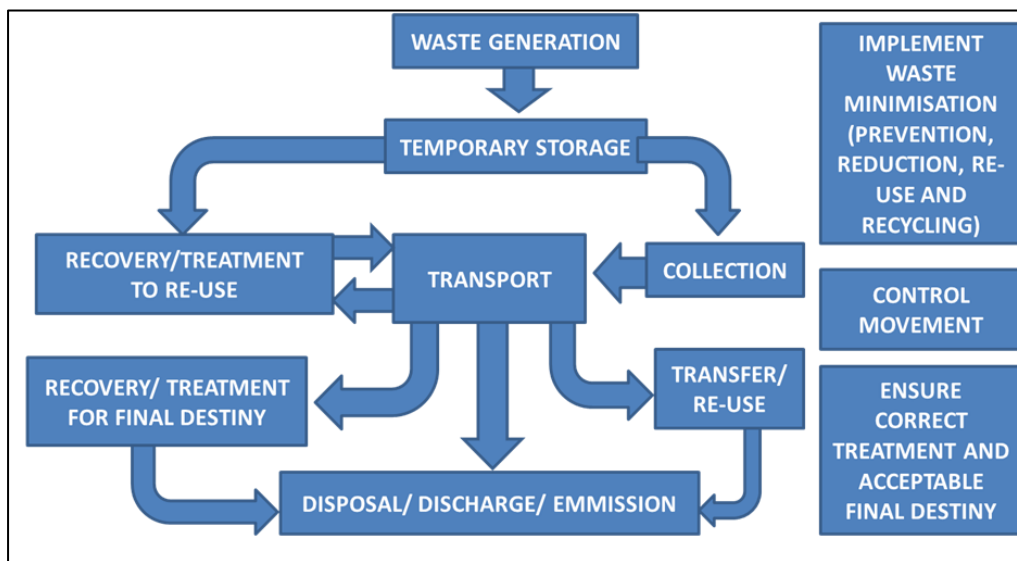


Figure 1: Integrated Waste Management Process

1.2 Waste Inventory and Classification:

1.2.1 In order to effectively manage waste streams according to best practice guidelines and legal requirements, it is necessary to identify the waste types generated and to classify them according to their nature (hazardous or non-hazardous) and the type of treatment or disposal required.

1.2.2 A waste inventory (Appendix A) should be developed by each ILLOVO ESTON operation and be reviewed and updated on an annual basis. The inventory should provide a description of the waste, specify whether the waste is hazardous or non-hazardous, should identify sources and in which bin / container it should be disposed of.

1.3 In addition, the waste inventory shall be used to determine the position that each waste holds on the hierarchy of control. The waste treatment / disposal method shall be noted on the waste inventory. Each waste shall be individually assessed to ascertain whether its position on the

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hierarchy can be improved – e.g. instead of disposing a waste, rather finding an option for recycling. This opportunity assessment shall be reviewed at least every two years. Waste Risk Assessment:

1.3.1 Once all the waste materials have been identified, a comprehensive waste risk assessment shall be conducted. This will include:

1.3.1.1 The inherent hazards of each waste to human and environmental health and safety shall be identified and relevant waste handling, storage, transportation and disposal risks shall be identified. Suitable control measures shall be developed and implemented as may be applicable;

1.3.1.2 An assessment of the compatibility of the different waste materials generated at the operation. Relevant control measures shall be developed to ensure that uncontrolled reactions such as fire and explosion does not occur during the handling, storage, transportation and/or disposal of waste;

1.3.1.3 The potential spill and/or release scenarios shall be considered. Relevant control measures shall be developed to deal with spill response, clean-up and remediation as may be applicable. Appropriate spill kits shall be purchased and made available at suitable locations. The location of spill kits are to be indicated on the emergency preparedness and response plan;

1.3.1.4 An assessment of uncontrolled release scenarios and their potential impact on the health and safety of employees, sensitive environments and community health and safety shall be undertaken. Suitable containment and response plans shall be developed and included into the emergency preparedness and response plan, and

1.3.1.5 The above assessment results shall be fed back into the operation's risk assessment.

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- 1.4 The operation shall set objectives and targets in respect of waste management on an annual basis, and track performance against these targets on a continuous basis.
- 1.5 Where new operations or activities are planned or changes to existing operations or activities occur, a review of new waste sources must take place during the planning, siting and design activities, including during equipment and process alterations. This review must identify expected waste generation, pollution prevention opportunities and necessary treatment, storage and disposal infrastructure and follow the same waste planning process as outlined above.
- 1.6 The operation shall obtain any such legislative permits / licences as may be applicable in respect of its waste handling, storage, transportation and disposal practices as may be relevant under the host country legislation. All conditions of the authorisation shall be actively managed and compliance thereto shall be maintained at all times.
- 1.7 The cost of waste management is to be quantified and analysed in order to determine where continuous improvement opportunities exist, suitable waste indicators must be developed to track progress against agreed objectives.

2. WASTE HANDLING PROCEDURE

2.1 On-site Waste Management:

- 2.1.1 The operation shall implement its waste management plan in full.
- 2.1.2 The bins must be covered or have tightly closing lids to prevent wind scatter and overflow of waste.
- 2.1.3 Waste bins must be adequately secured in order to prevent them from blowing / getting knocked over.
- 2.1.4 The waste bins must be constructed of impervious materials which can be cleaned.

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2.1.5 Waste must be properly segregated and the mixing of bio-degradable, non-hazardous and hazardous wastes must be prevented. This must be continually inspected and reinforced with employees through regular awareness training.

2.1.6 Waste should not accumulate in large quantities before it is transported to the temporary waste storage area / incinerator / landfill site (as may be applicable).

2.2 Temporary Storage and Separation of Waste:

2.2.1 The sorting and temporary storage of waste shall take place at a designated which has the appropriate approvals / licences in place.

2.2.2 The temporary waste storage area shall meet the following criteria:

2.2.2.1 Be located on an impermeable surface;

2.2.2.2 Have adequate bunding in place to minimise environmental and health impacts associated with leachate and spills;

2.2.2.3 The facility will be access controlled and locked at all times.

2.2.2.4 Adequate containers must be available (skips, bins, drums, etc.), must be appropriately colour coded and labelled to show what class and type of waste can be disposed of in them;

2.2.2.5 Container labels shall class the waste as well as specify any handling requirements, and indicate the date of first accumulation;

2.2.2.6 Containers shall be appropriately designed to store liquid, solid, hazardous or non-hazardous waste. Food waste and other compostable waste will be kept in separate containers to be used for compost;

2.2.2.7 The storage area must be inspected on a regular basis for leaks or defective containers;

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2.2.2.8 Waste shall be stored in a manner that prevents the contamination of and contact between incompatible wastes;

2.2.2.9 Appropriate waste spill and containment facilities will be provided in the event of an accidental spill or release of waste.

2.2.3 Hazardous waste storage should only be conducted / undertaken by employees who have been suitably trained to handle and store hazardous waste, and must comply with the following:

2.2.3.1 Hazardous waste is not to be co-disposed with general / non-hazardous waste;

2.2.3.2 Ensure that no incompatible wastes are co-disposed to prevent chemical reactions;

2.2.3.3 The storage facility will be appropriately designed to ensure it is well ventilated, protected from elements as well as having impermeable floors and a bunded area to contain accidental spills or leaks, and

2.2.3.4 Different containers for storing different hazardous wastes will be located within the storage facility

2.3 Waste separation shall be undertaken by suitably competent personnel only and may include:

2.3.1 The final separation of any residual hazardous waste which has been accidentally mixed with non-hazardous waste. Any non-hazardous waste which is visibly contaminated by the hazardous waste, shall be treated as hazardous waste and separated accordingly.

2.3.2 Recyclable materials will be separated into appropriate containers.

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2.3.3 The waste containers and waste management area shall be kept neat and tidy at all times, and waste containers shall be regularly.

3. WASTE TRANSPORTATION PROCEDURE

3.1 This section applies to:

3.1.1 Transportation of waste from waste generation areas to waste sorting or temporary storage areas; sending to Landfill site as an absolute last option must be assessed throughout the risk assessment process.

3.1.2 Transport of waste for recycling or disposal purposes;

3.1.3 Transport of hazardous waste for treatment or disposal, and

3.1.4 Waste will be transported from source to temporary storage facilities taking the following in to account.

3.2 The nature, composition and integrity of transport packaging and containers will be appropriate to the type and class of waste being transported.

3.3 Transport vehicles will cater for the type, class and quantity of waste being transported in terms of its composition, load capacity, covering etc.

3.4 Transport vehicles will follow the traffic speed limits and safety requirements.

3.5 Care should be taken when loading and unloading waste transport vehicles to avoid spillage / waste loss.

3.6 Employees to be continually briefed on correct waste storage, handling, transporting and disposing via Safety communication briefs.

3.7 All transport vehicles will be equipped with suitable materials or equipment to contain, manage and remove accidental waste spills.

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- 3.8 Hazardous waste being transported must be accompanied by a manifest that describes the load and its associated hazards, including: Name and identification number of material(s); physical state (i.e. solid, liquid, gas or a combination of one or more of these); quantity (e.g. kilograms or litres, number of containers); date dispatched; date transported; date received.
- 3.9 The driver and accompanying staff must be appropriately trained and licensed.
- 3.10 Permits will be required to transport hazardous waste across any borders outside South Africa.
- 3.11 No waste may be removed for disposal, treatment or recycling without consultation and permission of the SHERQ Manager.
- 3.12 The use of HAZCHEM placards are to be strictly enforced and a safe and secure loading and transportation arrangement is to be in place.
- 3.13 The driver must be conversant with any potential emergency scenarios which may arise as a result of transporting waste off site.
- 3.14 Routes are to be analysed and compliance with routing standards monitored, where necessary and based on risk of product being transported.

4. WASTE RECYCLING PROCEDURE

- 4.1 Only approved and appropriately licenced / permitted, reputable and legitimate contractors may be used for the recycling of waste generated at an Illovo Eston facility.
- 4.2 Waste which can be re-used or recycled must be separated from the other waste streams at source to avoid contamination and secondary sorting at the waste sort area – there must be separate bins / containers for glass, cans etc.

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- 4.3 The temporary waste storage area must make provision for the storage and packaging of recyclable materials, including containers, which must be clearly marked / labelled for which recyclable materials it should contain.
- 4.4 Recyclable materials should not accumulate at the temporary storage area.
- 4.5 Only materials, which have been approved by the SHERQ Manager, may be recycled or re-used.

5. SITE SPECIFIC WASTE MANAGEMENT PLAN(S)

- 5.1 Site-specific waste management plan must be developed for respective Eston site, which generates waste. The management plan shall be developed and/or approved by the SHERQ Manager, should be aligned with this procedure and must cover / address, as a minimum, the following:
- 5.1.1 Site-specific waste inventory;
 - 5.1.2 Waste storage and separation;
 - 5.1.3 Waste treatment;
 - 5.1.4 Additional / specific standard operating procedures with instructions for special waste treatment / handling if required, and
 - 5.1.5 Health and safety requirements.
- 5.2 The site-specific waste management plan shall be reviewed and updated on an annual basis.

6. HEALTH AND SAFETY, AND EMERGENCY RESPONSE

- 6.1 The handling of hazardous substances poses potential risks to the health and safety of employees, operators, waste contracting staff and employees in general. It is vital that the

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correct personal protective equipment (PPE) is provided and used when handling hazardous and general waste. PPE commonly used include: protective jackets, safety boots, dust masks, respirators, protective aprons, goggles and/or eye shields and gloves.

- 6.2 Medical records for all staff involved in all aspects of waste management must be maintained.
- 6.3 Employees shall be made aware of emergency telephone numbers, locations of spill kits, emergency exits and evacuation routes.
- 6.4 Medical emergency response shall be undertaken when necessary. The response actions shall include the following:
 - 6.4.1 Keep untrained employees away from the spillage area / emergency scene;
 - 6.4.2 Evacuate all employees and call emergency services if the spill is highly toxic and volatile;
 - 6.4.3 Allow only trained employees who have been appropriately trained and who are equipped with the necessary protective clothing and equipment to enter the area of the spill for clean-up;
 - 6.4.4 The necessary spill kits, protective devices, safety equipment, containers etc. must be readily available for emergency use. This may include: fire extinguishers, brushes, dustpans, mops, buckets, dry sand, tissue and towelling, containers including plastic bags, drums etc., absorbing materials, pumps and sampling devices, and
 - 6.4.5 Training and awareness must be provided regarding spillages and emergency response procedures.

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7. TRAINING AND AWARENESS

7.1 Training and awareness about all the aspects of waste management and the contents and implementation of this procedure must be provided to all employees and contractors, and

8. MONITORING AND REPORTING

8.1 Visual inspection of all waste storage, collection and disposal areas must be monitored for spillage and whether waste containers are labelled and stored appropriately on a weekly basis.

8.2 Conduct regular inspections around accommodation, office and operational areas to monitor littering and whether adequate waste disposal is undertaken and that the appropriate equipment and facilities are available / in good condition.

8.3 Undertake regular inspections of the waste transportation systems. This will include the inspection of waste collection vehicles in order to ensure they are adequate and suitable for their purpose and that they are kept in good condition, this section has been covered under waste transportation specifications.

8.4 Monitoring records for waste (hazardous and non-hazardous) generated, collected, stored and disposal must include:

8.4.1 Name and identification number of materials composing the waste;

8.4.2 Physical state (solid, liquid, gaseous or combination of one or more of these);

8.4.3 Quantity (kilograms or litres, number of containers);

8.4.4 Tracking documentation must include waste information as described above, date dispatched, date transported and date received, and

8.5 Waste statistics to be recoded internally on a monthly basis by the SHERQ Manager via the Illovo Sustainability Reporting system.

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- 8.6 Waste statistics to be reported to relevant environmental authorities as prescribed in the host country legislation, this will form part of the application as a Waste Generating Site with NEMA: Waste Act
- 8.7 Any non-conformances in regard with the handling, storage, transportation, treatment and disposal must be recorded in terms of the incident reporting procedures and investigated accordingly. Preventative and/or corrective actions must be identified, implemented and monitored, during and subsequent to closing out the incident.

7.0. Records

The following Records are required as evidence of compliance with this Specification:

Doc. No.	Form Title	Custodian	Location	Retention	Destruction
	Non Hazardous Waste Disposal	SHERQ Officer	SHERQ Officer	Continuous	Shredding
	Handling and Disposal of Hazardous Waste	SHERQ Officer	SHERQ Officer	Continuous	Shredding
	Waste inventory	SHERQ Officer	SHERQ Officer	Continuous	Shredding

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