



**SASOL**

# SASOL WORK INSTRUCTION

Packaging Standard for Delivered Materials



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# 1 Abbreviations and definitions

## 1.1 Abbreviations

<b>HT</b>	Height
<b>IL</b>	Inbound Logistics
<b>ISO</b>	International Standards for Organizations
<b>LDPE</b>	Low-Density Polyethylene
<b>LDV</b>	Light Delivery Vehicle
<b>LG</b>	Length
<b>m</b>	Meter
<b>mm</b>	Millimetre
<b>OME</b>	Operating Model Entity
<b>PPE</b>	Personal Protective Equipment
<b>PVC</b>	Polyvinyl Chloride
<b>ROAS</b>	Regional Operations & Asset Services
<b>SAP</b>	System application product
<b>SHE</b>	Safety, Health & Environment
<b>WD</b>	Width
<b>WI</b>	Work Instruction

## 1.2 Definitions

### **Operating Model Entity (OME)**

Distinguishable component within the operating model of the Sasol Group, consisting of operating business units and operation hubs.

### **Supplier**

A person or entity that is the source for goods or services supplied to an Operating Model Entity.

## 2 Scope

This work instruction is applicable to all Sasol Inbound Supply Chain sub-functions involved in the sourcing, procurement and receiving of materials for Sasol Operating Model Entities, as per table 2. The purpose of this work instruction is to provide the approved packaging standard for delivered material. No Practice Note, Memorandum, Business Instruction or Internal Note may be issued to direct Supply Chain activities in contrast with, or different than requirements set in standards and work instructions. Any change made to a process must be followed through with a change to the standards and work instructions set for such process and are not valid until the standards and / or work instructions had been updated and are effective.

SAP Box	Plant	Geographical Area	Site
PS1	1701	Secunda	Monomers
PS1	3501	Secunda	Solvents
PS1	8201	Secunda	Synfuels
PS1	9800	Secunda	Mining Central MM
PS1	9801	Sasolburg	Mooikraal Sigma
PS1	9803	Secunda	Syferfontein
PS1	9804	Secunda	Shondoni
PS1	9806	Secunda	Central Workshop
PS1	9807	Secunda	Synfuels
PS1	9808	Secunda	Irenedale
PS1	9812	Secunda	Twistdraai export
PS1	9816	Secunda	Thubelisha
PS1	9818	Secunda	Impumelelo
PSD	1442	Secunda	Sasol Secunda
PSD	1101	Secunda	Sasol Secunda
PSD	1102	Secunda	Sasol Secunda
PS1	1442	Secunda	Sasol Secunda
PS1	1101	Secunda	Sasol Secunda
PS1	1102	Secunda	Sasol Secunda
PS8	2	Secunda	Sasol Secunda
PSD	7301	Bronkhorstspuit	Sasol Dyno Nobel Site
PSD	7412	Bronkhorstspuit	Sasol Dyno Nobel Site
PS8	6	Sasolburg	Sasol 1 Site
PSD	3202	Sasolburg	Midland Site
PSD	3203	Sasolburg	Midland Site
PSD	3204	Sasolburg	Midland Site
PSB	8003	KZN Durban	Satellite Ops
PSB	8005	Nelspruit	Satellite Ops
PSB	8100	Maputo	Satellite Ops
PSB	8000	Germiston	Satellite Ops

Table 2: Applicable scope of the packaging standard for delivered material

### 3 Introduction

As the standard of materials and equipment packaging and delivery methods impact on the consistent safe handling of materials and equipment as well as on the preservation thereof, it is required that minimum packaging standards be specified, applicable to suppliers of materials and equipment to Sasol. This requirement, termed 'Packaging Standard for Delivered Materials' is detailed hereinafter. It is to be noted that the terms 'materials' and 'equipment' are used interchangeably in this document and collectively include all types of 'goods' delivered to Sasol.

## 4 Responsibilities and authorities

Designation	Responsibilities and authorities
Senior Manager: Inbound Logistics	Put procedure in place to ensure an effective packaging standard for delivered material.
Chief Procurement Office	Ensure compliance, in the procurement process, to the packaging standard for delivered material.
Senior Manager: Materials Procurement	Ensure compliance, in the procurement process, to the packaging standard for delivered material.
Senior Manager: Services Procurement	Ensure compliance in the procurement process, specifically relating to refurbishment material, to the packaging standard for delivered material.

Table 3: Responsibilities and authorities

## 5 Packaging standard for delivered materials

### 5.1 Delivery hours

Delivery of materials and equipment to Sasol warehouse delivery points are subject to the following operational times:

Normal hours	After hours
07:30 – 15:30 (Monday to Thursday) 07:30 – 12:30 (Fridays)	Breakdowns only

Table 4: Delivery hours

### 5.2 Sasol warehouse delivery points

Delivery of materials and equipment to Sasol delivery points are to be made to the delivery address specified in the purchase order. Effective material delivery will be refused if not delivered to the specified Sasol delivery point, as specified in the purchase order.

## 6 Safety requirements at point of delivery

Safety, Health and Environment (SHE) requirements are of high importance to Sasol. Sasol commits to and uphold legislation and policy as it relates to OHS 18001, MSHA 29 of 1996 and applicable explosives regulations. The purpose of this section is concerned with the safety aspects as it relates to supplier's (and third-party operators to the supplier) safety at point of material delivery to Sasol.

### 6.1 Compulsory PPE

The following personal protective equipment (PPE) is required when suppliers (or third-party operators on behalf of a supplier) delivers to Sasol delivery points:

- Gloves;
- Steel point shoes;
- Reflective vest; and
- Long pants.





## 6.2 Delivery vehicles, equipment, drivers and drivers' assistants

6.2.1 This section details the requirements applicable at the point of delivery, inclusive of the delivery driver actions.

- a) Delivery vehicles are required to be roadworthy and to further comply with all applicable regulations of the Road Traffic Act (1996).
- b) All delivery vehicles to be equipped with stop blocks (LDV, small truck, interlink, tankers and trailers). The stop blocks are to be linked to each other via a rope / cable and should be placed one in front and the other at the back of the rear-right wheel of the vehicle once the vehicle is parked. Delivery vehicles shall be reversed parked at delivery points.
- c) Deliveries to be serviced by way of forklift unloading should be made by vehicles equipped with drop-side load-bins. Panel-vans and LDVs without drop-side load-bins will not be serviced by forklifts for unloading.
- d) When parking a delivery vehicle in designated areas, the driver is required to ensure that the:
  - Vehicle is effectively switched off and secured;
  - Key is removed from the ignition;
  - Parking brake is engaged;
  - Vehicle placed into park or first gear;
  - Stop-blocks are effectively applied.
- e) Supplier delivery vehicles are to be prepared for unloading by the supplier and includes loosening of straps, opening drop-sides and any other related activity to enable safe unloading practices.
  - No loading or unloading activity commences or continues while any person is present on the truck / trailer's load-body or while any person is busy preparing the truck / trailer for loading.
  - No material on the load-bed to rest against drop-sides or door openings.
  - Material to be placed in such manner that forklift entry is unobstructed. For small deliveries on a load-bed, material to be staged in such a manner that it can be safely retrieved without climbing onto the load-bed.
  - To assist in case of emergency, the supplier's driver and assistant to carry his / her company emergency contact details as well as his medical aid number on his/her person.
  - When towing any equipment or trailers, no vehicle is allowed to be reversed without a guide i.e. drivers' assistant guiding the reverse action.
  - Container configuration to comply with standard ISO shipping container configuration: 2.43m wide, 2.59m or 2.89m high and either be 6.06m or 12.2m in length.
  - Shipping containers shall at all times allow for free access to doors. Lifting lugs to be clear of any obstructions and should be in general good state of repair.

## 7 Packaging standard

The Packaging Standard per table 5 below provides a definition of the required packaging material type and indicates the minimum packaging materials and methods to be utilised for appropriately securing materials and equipment delivered to Sasol.

Packaging material type	Description	Illustrative picture
<b>Wrapping</b>	Wrapping is industrial plastic (PVC or LDPE) used for securing material onto a pallet. All stacked materials are to be supplied on pallets and suitably wrapped.	 <p>Wrapping material on pallet</p>  <p>Wrapping material</p>
<b>Strapping</b>	<b>No steel strapping or wire winding</b> shall be utilised for material deliveries to Sasol. The preferred strapping material is Polyester, Nylon or Corded and Woven strapping. The supplier to ensure that the strapping utilised has the rated capacity for the application.	 <p>Equipment strapped on pallet</p>  <p>Strapping material</p>

**Pallets**

All materials / equipment with an individual or combined packed weight > 20kg is required to be supplied on and secured to a pallet.

- All materials / equipment placed onto a pallet shall be secured by means of strapping onto the pallet in a configuration whereby at least two ends or alternatively the point of centre of gravity of the material / equipment is strapped down.
- Where appropriate items such as electrical motors, pumps and alike equipped with foot-pieces should be bolted to the pallet.
- Drums are required to be placed on a pallet and secured by strapping the drums together at the top as well as the bottom-rim area in horizontal configuration. The drums further require a strapping configuration of 2 straps per each 4 drums in vertical.
- Drums can also be wrapped on a pallet.
- Single drums are required to be strapped vertically to the pallet only.



Material configuration of two ends strapped to pallet



Material with foot plate bolted to pallet



Material with balancing pin bolted to pallet













Drums strapped to pallet

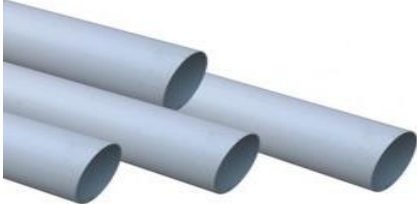

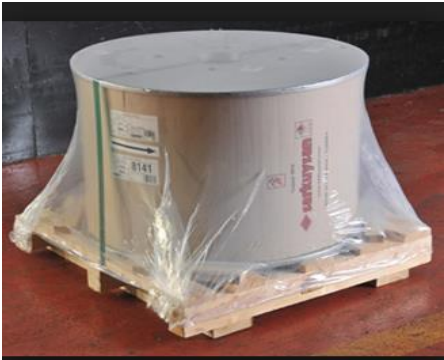




Custom pallet for extra large material



	<p>Pallets may be of either wood, steel or plastic construction.</p> <p>Unless purpose made pallets are required for large / heavy equipment, pallet sizes are to conform to the following standard sizes:</p> <p><b>Large pallet:</b> Dimensions WD 1000 X LG 1200 X HT 138 mm, assembly form deck board, material pine / plastic. Euro Pallet type 3 equivalent.</p> <p><b>Small pallet:</b> Dimensions WD 800 X LG 600 X HT:138 mm, assembly form deck board, material pine / plastic. Euro Pallet type 6 equivalent.</p>	 <p>Large pallet (WD 1000 X LG 1200 X HT 138 mm)</p>  <p>Small pallet: (WD 800 X LG 600 X HT 138 mm)</p>
<p><b>Steel frames</b></p>	<p>Four types of steel frames are prescribed by Sasol for equipment delivery, namely for rotors, pulleys and cyclones.</p> <ul style="list-style-type: none"> <li>For rotors a steel frame will ensure the rotor is secured in an upright position and perfectly balanced for purposes of handling and storage. The rotor frame to be fitted with lifting lugs designed and constructed to allow crane-lifting and must be delivered according to preservation standards.</li> <li>For pulleys the steel frame is to enable the pulley cylinder to be slotted into the belly of the steel structure. The steel frame to allow bottom access for balanced forklift fork entry. Plummer blocks of the pulleys must be wrapped to avoid grease spillages.</li> <li>Steel skids forklift access holes must not be smaller than (HT 100 mm x WD 220 mm).</li> <li>For cyclones the steel frame is to enable the cyclone to be securely affixed to the steel</li> </ul>	 <p>Rotor steel-frame:</p>  <p>Pulley steel-frame:</p>  <p>Steel Skid with Powerpack</p>

	<p>structure bed (similar to the pulley steel frame). The cyclone steel frame is further required to be equipped with balancing pins to effectively secure the cyclone during handling. The steel frame to have access holes for forklift forks entry at the bottom and lifting lugs for rigging operations.</p>	 <p>Cyclone steel-frame:</p>
<p><b>Crates</b></p>	<ul style="list-style-type: none"> <li>• Crates are to be of sound construction and made from wood (pine material) allowing reinforced bottom access areas for handling by forklift. The crate is to be fully enclosed with no material protruding from the crate. The material inside the crate to be placed in stable configuration to avoid irregular material movement. Crate should preferably have hinge inspection door or inspection windows.</li> <li>• With due consideration of the placement of the item(s) inside the crate, the crate is required to clearly indicate the appropriate reinforced forklift lifting access points as to prevent damage to the items and to prevent the crate from collapsing during handling.</li> <li>• All imported materials and items supplied as kit-assembly parts are required to be supplied in suitably designed crates.</li> </ul>	 <p>Typical wooden crate</p>  <p>Alternative open-slatted wooden crate</p>
<p><b>Bolted</b></p>	<p>Bolted prescribes that material being delivered requires the material to be physically affixed by means of a bolt and nut to the pallet (securely).</p> <p>U-bolts to be utilised for securing of pipes into either chokes or flat steel, in an evenly and secure configuration.</p>	 <p>Material with foot plate bolted to pallet</p>  <p>U-bolted pipes</p>

<p><b>PVC material certificate / document tubes</b></p>	<p>PVC pipe to be utilised and attached to the delivered material. Standard PVC pipe to be utilised 42mm outside diameter and capped at both ends (screw ends) for material test certificates, design drawings and flameproof certificates. The end-screw cap to have an area for a cable tie to attach – which is utilised to affix the PVC material certificate/document tube to the material delivered.</p>	 <p>PVC pipe:</p>  <p>PVC end-screw cap:</p>
<p><b>Wooden spool</b></p>	<p>Wooden spools are to be used in the supply of electric cable and other lengthy rollable materials such as aluminium cable, cord, rope, etc.</p>	 <p>Wooden spool where it is wrapped, strapped and on pallet</p>
<p><b>Chocks</b></p>	<p>Chocks are to be supplied for the delivery and placement of all heavy equipment. Chocks are to be constructed from hardwood and should be of suitable dimensions (minimum WD 240 mm and HT 120 mm) in relation to the equipment being delivered. Example, steel grid, steel sheeting, steel piping etc.</p>	 <p>Example of chokes</p>  <p>Example of roof bolts with chocks</p>

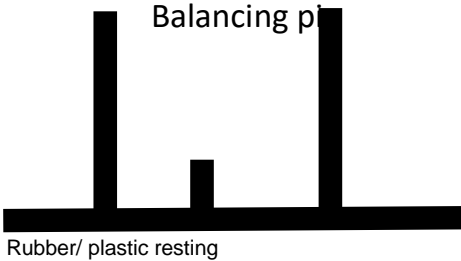



<p><b>Balancing pin</b></p>	<p>A balancing pin is utilised to stabilise material, either on a pallet, in a crate or in / on a steel frame. The pin to be constructed from steel and the resting area of the pin, which enables the material resting against the pin, covered in a plastic or rubber protective barrier.</p>	 <p>Balancing pin</p> <p>Rubber/ plastic resting</p>
<p><b>Protective cap</b></p>	<p>Protective caps are required to effectively enclose any sharp and or pointy objects to prevent injury during handling and dust contamination. Protective caps should have a 'tight fit' and are constructed from plastic and size is dependent on object specifics.</p>	 <p>Protective caps example</p>
<p><b>Steel Spool / Reel</b></p>	<p>A steel spool is a mechanical handling device available in two constructions:</p> <ul style="list-style-type: none"> <li>• Triangle like device which is typically utilised for light-weight spooled material. The construction provides for a horizontal beam onto which the spooled material is placed. The triangle design allows for forklift handling entry at the bottom of the triangle.</li> <li>• Hexagon, heptagon or octagon devices which is typically utilised for heavy-weight spooled material. The construction provides for a horizontal beam onto which the spooled material is placed. The device allows for forklift handling entry at the bottom of the hexagon, heptagon or octagon.</li> </ul>	 <p>Example of triangle device</p>  <p>Example of octagon device</p>

Table 5: Packaging material defined.

## 8 Record management

### Record matrix

Record nr.	Record description	Responsibility	Medium	Storage location	File	Retention period	Disposal method
None	None	None	None	None	None	None	None

**Note:** Files with hard copies are kept in the document store while the product / customer are active - thereafter it is archived. Electronic data is stored on the server and is backed up as per the IT procedures.

## 9 Amendment record

Revision number	Page	Status / change
01	All	New document.
02	All	New Sasol 2.0 Operating model naming conventions for example: SCS now ROAS, MM now IL.
	4	Content overview: Removed from Table 2 - PS1 Secunda Brandspruit plant 9805, PS1 Twistdraai central plant 9809, PS1 and PSD Sasol Secunda Plants 1411 and 1460, PS1 Three Shafts and Mooikraal plant 9801. Additions on Table 2 - PS1 Mooikraal Sigma plant 9801, PSB KZN Durban Satellite Ops plant 8003, PSB Nelspruit Satellite Ops plant 8005, PSB Maputo Satellite Ops plant 8100, PSB Germiston Satellite Ops plant 8000.
	6	Change the word off-loading to unloading
	7	Remove sentence "No material on the load-bed of the vehicle to be stacked higher than the side supports of the load-bed".  Change sentenced from "For small deliveries on a load-bed, material to be staged in such a manner that it can be safely retrieved without mounting the load-bed." To "For small deliveries on a load-bed, material to be staged in such a manner that it can be safely retrieved without climbing onto the load-bed."
	8	Add sentence " <b>No steel strapping or wire winding</b> " and bold it.
	9	Add sentence "Drums can also be wrapped on a pallet".  Add word "steel" to sentence "Pallets may be of either wood, steel or plastic construction."  Remove sentence "Deliveries on pallets require that no piece of the material protrudes the pallet".
	10	Replace picture of large pallet with a clear one.  Additional information added to sentence "and must be delivered according preservation standards".  Add sentence "Plummer blocks of the pulleys must be wrapped to avoid grease spillages" to text.  Add dimension of steel skid access holes, for forks of forklift to enter - "must not be smaller than (HT 100 mm x WD 220 mm)". Add photo of Powerpack mounted on steel skid.

	11	<p>Made addition to text on the cyclones - "and lifting lugs for rigging operations".</p> <p>Removed the following sentence "For bended pipes such as 'configured' boiler tubes, a steel frame is required to enable the bend pipes to securely fit into the frame and adjustable bolted clamps applied holding the material secure within the frame. The steel frame to have appropriate access for forklift entry."</p> <p>Add sentence "Crate should preferably have hinge inspection door or inspection windows" to packaging material type crate.</p> <p>Remove section on packaging material type - Wooden Cradles.</p>
	12	<p>Remove sentence "The wooden spool, following the curvature from side to side, to be fully enclosed by means of being wrapped and strapped securely onto a pallet."</p> <p>Remove wording "(e.g. Zimbabwean Teak) from text.</p> <p>Add chock dimension to text (minimum WD 240 mm and HT 120 mm) in relation to the equipment being delivered.</p> <p>Remove section on packaging material types - Gas cylinders; General packaging for smaller material.</p>
	13	<p>Additional information added at packaging material type - Protective cap - "and dust contamination."</p> <p>Remove section 8 from this WI - Packaging standard matrix for material and equipment deliveries.</p>

