Produce Traceability Initiative
Why and How to Use EDI 856 Advance Ship Notice/Manifest Transaction Set (ASN)

(Revision 1.1)

About this Guidance Document

Guidelines are generally accepted, informally standardized techniques, methods or processes that have proven themselves over time to accomplish given tasks. The idea is that with proper processes, checks and testing, a desired outcome can be delivered more effectively with fewer problems and unforeseen complications. In addition, a guideline can evolve to become better as improvements are discovered. The Produce Traceability Initiative (PTI) is a voluntary U.S. produce initiative. The guidelines are the recommendations created and agreed to by all facets of the produce industry supply chain and PTI Leadership Council.

Consent between trading partners may replace specific recommendations as long as the minimum traceability information requirements are met in good faith.

Revision History

This section itemizes the changes from the last published Guidance Document.

Version No.	Date of Change	Changed By	Summary of Change
1.0	October 2012	Master Data Working Group and Technology Working Group	Original document
1.1	June 2020	Technology Workgroup	EDI section updated

Produce Traceability Initiative Why and How to Use EDI 856 Advance Ship Notice v1.1   1
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Objectives

The objectives for this guidance document developed by industry participants of the Produce Traceability Initiative (PTI) are to:

- explain what an Electronic Data Interchange (EDI) Advance Ship Notice (ASN) is and why companies may choose to implement;
- outline business benefits derived from the use of an ASN;
- detail how the ASN can be used to facilitate capturing the Global Trade Item Number or GTIN and corresponding Batch/Lot Numbers with only one pallet barcode; and
- provide specifications for how to implement an EDI 856 Advance Ship Notice for produce shipments.

Table 1: Terms/Definitions

Listed below are terms used by the produce industry and their cross-references with the GS1 Glossary of Terms:

Sector Term	GS1 Glossary Term	Definition
	Advance Ship Notice/Manifest (ASN)	An Electronic Data Interchange (EDI) transaction that provides the receiving company with advance data on shipments to better plan workloads and receipt processing. In the implementation of the transaction, the latest the ship notice may be sent is the time of shipment. In practice, the ship notice must arrive before the shipment.
	Bill of Lading	A legal document between the shipper of a particular good and the carrier detailing the type, quantity and destination of the good being carried. The bill of lading also serves as a receipt of shipment when the good is delivered to the predetermined destination. This document must accompany the shipped goods, no matter the form of transportation, and must be signed by an authorized representative from the carrier, shipper and receiver.
	Brand Owner	The one who owns or has legal rights to the Label/Brand.
• Buyer	(See Trading Partner)	This term is used to refer to the trading partner who issues an order to the supplier. This party can be a retailer, a distributor, or a re-distributor.
	Electronic Data Interchange (EDI)	A standard format for computer-to-computer transmission of business information and transactions between trading partners, such as invoices and

Produce Traceability Initiative Why and How to Use EDI 856 Advance Ship Notice v1.1   2
Released: June 2020
Source: www.producetraceability.org

Sector Term	GS1 Glossary Term	Definition
		purchase orders.

Produce Traceability Initiative Why and How to Use EDI 856 Advance Ship Notice v1.1   3
Released: June 2020
Source: www.producetraceability.org

Sector Term	GS1 Glossary Term	Definition
	Global Trade Item Number® (GTIN®)	The globally unique GS1 System identification number for products and services. A GTIN may be 8, 12, 13, or 14 digits in length. The GTIN-14 has been selected for use in the PTI.
• Label/Brand	(See Brand Owner)	The name or trademark connected with a product or marketer.
• Private label/brand	(See Brand Owner)	These products typically are manufactured, packed or provided by one or more companies for offer under a brand, which is owned, by a company other than the manufacturing or producing company.
	Serial Shipping Container Code (SSCC-18)	Term used for the Serial Shipping Container Code. The unique identification of a logistic unit using an 18-digit data structure
• Supplier	(See Trading Partner)	The trading partner who receives an order from a buyer and ships it. This party can be a grower, a distributor, or a re-distributor.
	Trading Partner	A party to transactions in the supply chain, such as a supplier (seller) or a customer (buyer).

What is an ASN?

The EDI Advance Ship Notice/Manifest or ASN provides order and shipment information in one electronic transaction sent from the shipper to the receiver. While the ASN is similar to a Bill of Lading (BOL) and even carries much of the same information, it has a much different function. The BOL is meant to accompany a shipment along its path. An ASN is intended to provide its information in advance of the actual shipment arriving at its destination.

The value of the ASN comes from receiving it prior to the actual shipment. This tends to impact the logistics stream in three areas: cost, accuracy, and flexibility.

- **Cost -** Today's receiving systems are designed as fast moving environments where there is little time to open and breakdown cases for manual receipt or verification of contents against paperwork. Instead, these systems depend on the scanning of barcodes from shipping labels. ASNs, which include Serial Shipping Container Codes (SSCC), provide the contents of each pallet, including the GTIN, corresponding Batch/Lot Numbers, and the quantity of each GTIN and Batch/Lot Number combination on the pallet. This greatly increases the speed of the receiving process as what is captured from reading the SSCC from each pallet can be matched to the information previously sent in the ASN. The ASN also provides quantities and contents that allow for the receipt and put away of the goods. Receiving costs are thought to be reduced by about 40% when using ASNs.

Produce Traceability Initiative Why and How to Use EDI 856 Advance Ship Notice v1.1   4
Released: June 2020
Source: www.producetraceability.org

- **Accuracy** - Upon receipt of the ASN, the receiver is immediately informed of any difference between what was ordered, and what was actually shipped. (including substitutions)
- **Flexibility** - Knowing the actual fill rates ahead of receiving the orders gives the recipient the opportunity to re-allocate goods in subsequent outbound shipments.

Benefits of implementation of the ASN

The following are potential benefits from the use of ASNs:

- Eliminates the need for paper-based communications
- Enables automatic capture of the GTIN and Batch/Lot Numbers of each case
- Ensures accuracy between product shipped and product received
- Reduces off-loading time at receiving dock
- Reduces check-in time from receipt to selling floor
- Facilitates the cross docking process
- Allows for advance order allocation
- Facilitates mechanized receiving
- Allows for integration of data to multiple systems without multiple data entry
- Allows for resource scheduling by the receiver
- Promotes the ability to plan space allocation for item put away
- Streamlines the payment process by facilitating accurate matching
- Improved order cycle times
- Higher in-stock rates
- Improved inventory turn

What information is contained in an ASN?

Specific details about a shipment are contained in the ASN message such as order information, physical characteristics, GTIN and Batch/Lot Number, product descriptions, and carrier. The document will also contain marking, packaging information, and configuration of goods in the transportation equipment. There are many data elements, which can be included in an ASN. The actual elements passed will be determined by the recipient of the message.

Produce Traceability Initiative Why and How to Use EDI 856 Advance Ship Notice v1.1   5
Released: June 2020
Source: www.producetraceability.org

This illustration shows transactional data exchange with EDI between any two parties in the supply chain.

Why is it important to trading partners?

ASNs can eliminate time and labor in the receiving and reconciliation process. Suppliers provide accurate fulfillment information/data, which can save significant time not only for trading partners but also in internal accounting systems. Electronic documents mean shipping, purchase order, and invoice processes can be programmatically reconciled. This automation contributes to accurate visibility among trading partners, as electronic systems generate and share data much more efficiently.

Why use of the ASN is the most efficient option to capture/share GTIN and Batch/Lot Number from each case on the pallet.

There are three options to capture and share GTIN and Batch/Lot Number information from each case being received.

1. Use of the ASN and a GS1 Logistics Label - The fastest, easiest, and most efficient approach.   The receiver scans and utilizes the SSCC from the pallet label and links to information stored in a database from the Advance Ship Notice for the details of the content on the pallet.
    - One scan
    - One GS1 logistics label per pallet
    - All data about contents available programmatically
2. Reading the case barcodes from a Hybrid Pallet Label - This has been defined as an interim approach to the use of ASNs and SSCC identification on pallets. The receiver scans and utilizes the case barcodes from the Hybrid Pallet Label; that information can be loaded into a database where the case information from the scans is stored.
    - Multiple scans - as many scans as there are case GTINs with unique Batch/Lot Numbers
    - Multiple labels - as many labels as needed to display all the case GTINs with unique Batch/Lot Numbers
    - All data is gathered at the point of scan and receipt

Produce Traceability Initiative Why and How to Use EDI 856 Advance Ship Notice v1.1   6
Released: June 2020
Source: www.producetraceability.org

3. Scanning or manual inspection of the GTIN and Batch/Lot Number information from each individual case on the pallet - This is the least efficient. The receiver would need to scan and store the GTIN and Batch/Lot Numbers into a database or read and record the human readable GTIN and Batch/Lot Numbers information from each case on the pallet.
   - Multiple scans or reads- as many scans as there are case GTINs with unique Batch/Lot Numbers
   - Multiple labels- as many labels as needed to display all the case GTINs with unique Batch/Lot Numbers
   - All data is gather at the point of scan and receipt

Scenario	GS1 Standard	GS1 Term	Type of Supply Chain Information	Type of Carrier
1	SSCC	Serial Shipping Container Code	Specific logistics unit identification	GS1-128 Barcode
	Advance Ship Notice (ASN)		Detail of shipment including: Case Identification, Case Qty, Case Description, Batch/Lot Number	Excel or EDI
2	SSCC	Serial Shipping Container Code	Specific logistics unit identification	GS1-128 Barcode on Hybrid Pallet Label
	GTIN	Global Trade Item Number	Unique Product Identification; Additional Application Identifiers or AIs of (10) Batch/Lot Number and (37) Quantity	GS1-128 Barcode on Hybrid Pallet Label
3	GTIN	Global Trade Item Number	Unique Product identification Batch/Lot Number Some type of Date	GS1-128 Barcode with AIs or ITF-14 Barcode with human-readable text

Use of an ASN is not only the preferred method of identifying pallet content information efficiently, but because it arrives in advance of the shipment, it also provides the ability to foresee what is expected as delivery. This advance view will allow for receipt preparation, possible GTIN substitutions, notification of unavailability of items ordered and pre-placement of items into inventory bins, or their next step in the supply chain.

Produce Traceability Initiative Why and How to Use EDI 856 Advance Ship Notice v1.1   7
Released: June 2020
Source: www.producetraceability.org

The use of the ASN also makes it possible to restore discrepancies in the GTINs not previously communicated to the receiver to be resolved prior to the shipment arriving on the dock. This resolution will ensure that receiving runs as smoothly and efficiently as possible.

What technology is required to complete ASNs?

For many suppliers, EDI usually is available as an additional service for ERP software systems or can be purchased separately to integrate into other systems. Software available for PC- or server-based systems can be very cost effective. However, like all software applications, depending on applications and implementation scope, integrated software packages or programs costs can vary.

For recipients, third party solution providers typically offer EDI software. Industry POS systems currently are developing advance EDI documents, such as the ASN and invoice, to complement existing purchase order and purchase order acknowledgement documents. Larger retailers who use specialized systems usually have EDI modules included in their systems that either need to be turned on or purchased separately. Recipients with proprietary software programs without EDI modules can acquire off-the-shelf EDI software.

Ideally, your EDI system should integrate into your business software to prevent having to enter data between systems manually. Otherwise, you defeat the purpose of eliminating process time and labor.

Suppliers should be able to "pack to order" and have barcode labels on each shipping pallet. This means the warehouse system allows a shipment to be built and labeled with a Serial Shipping Container Code (SSCC), which is placed in a GS1-128 barcode. These labels follow specific formats and must contain accurate information.

Use of the SSCC allows for the scanning of one barcode per pallet, and eliminates the need for scanning multiple bar codes per pallet in the receiving process.

The label is pivotal to the establishment of an electronic relationship between a shipment, its contents, a purchase order, and internal systems. Each pallet label contains a single SSCC as an identification of the pallet in that shipment. ASNs store and organize purchase-order numbers, shipment and product related information, in the internal systems of both the shipper and the receiver. When a receiver scans the SSCC on a pallet's label, the information is electronically matched to the ASN transmitted previously and downloaded into the retailer's system. This matching allows for the

Produce Traceability Initiative Why and How to Use EDI 856 Advance Ship Notice v1.1   8
Released: June 2020
Source: www.producetraceability.org

population of content information for the pallet, such as case GTINs, Batch/Lot Numbers, and quantities. This information is then used for accurate receipt and put away.

What operational processes are necessary to provide ASNs?

The point of an ASN is to tell receivers in advance what will be arriving and when, so the receiver can be prepared to receive the shipment accurately and efficiently. This means warehouse operations must be precise enough to identify contents by product and quantity on pallets down to the case level (GTIN). It must be known how many of which cases are on each pallet of a shipment.

Typically, this process includes staging an order for shipment, creating a freight manifest, and a carrier closeout (getting a shipment assigned and loaded on a truck).

What shipping processes are necessary to ensure ASNs are transmitted to arrive in advance of the shipment?

ASN data will be useful to receivers only if sent in a timely manner. In addition, receivers must be able to depend on the data being reliable and accurate.

Trading partners establish mutually agreed upon systems or processes ahead of time to address shipping/receiving errors. This way shipment receiving still gains time and cost savings—reducing cycle times and improving in-stock rates—because administrative processes are separate from logistics processes.

What investment is required to implement ASNs?

The investment to implement ASNs depends on each company's current situation. Challenges and expenses are proportional based upon how much change actually must take place within each system. Some systems may need only minor enhancements, while others may need major modifications not just in technology but also in the logistical way orders flow through facilities.

Typical equipment needed to accept, collect, and transmit ASN data includes scanning equipment, label printers, and warehouse software modules that integrate with other company application software. A high degree of software integration is required to be able to gather information, transmit it internally, create shipping/receiving documents, and send it to receivers before shipments arrive. In some cases, warehouse

Produce Traceability Initiative Why and How to Use EDI 856 Advance Ship Notice v1.1   9
Released: June 2020
Source: www.producetraceability.org

shipping/receiving may need to be reorganized with new processes and procedures. There is an efficiency curve as personnel learn new ways to process orders.

Produce Traceability Initiative Why and How to Use EDI 856 Advance Ship Notice v1.1   10
Released: June 2020
Source: www.producetraceability.org

856 Ship Notice/Manifest - Produce Traceability Initiative (PTI)

UCS EDI

Version: 007020UCS

Author:	**GS1 US and GS1 Canada**
Publication:	**6/15/2020**
Notes:	**For implementation July, 2020**

Table of Contents

856   Ship Notice/Manifest - Produce Traceability Initiative (PTI)

Functional Group=SH

Purpose: This X12 Transaction Set contains the format and establishes the data contents of the Ship Notice/Manifest Transaction Set (856) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to list the contents of a shipment of goods as well as additional information relating to the shipment, such as order information, product description, physical characteristics, type of packaging, marking, carrier information, and configuration of goods within the transportation equipment. The transaction set enables the sender to describe the contents and configuration of a shipment in various levels of detail and provides an ordered flexibility to convey information.The sender of this transaction is the organization responsible for detailing and communicating the contents of a shipment, or shipments, to one or more receivers of the transaction set. The receiver of this transaction set can be any organization having an interest in the contents of a shipment or information about the contents of a shipment.

> ### Note 1:
> *This document represents the work of the Produce Traceability Initiative (PTI).*

Heading:

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
	0100	ST	Transaction Set Header	M	1			Must use	14
	0200	BSN	Beginning Segment for Ship Notice	M	1			Must use	15
*	0400	DTM	Date/Time Reference	O	10				N/A

Detail:

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
	LOOP ID - HL					**200000**	**C2/0100L**		17
	0100	HL	Hierarchical Level	M	1		C2/0100	Must use	18
*	0200	LIN	Item Identification	O	1				N/A
*	0300	SN1	Item Detail (Shipment)	O	1				N/A
*	0400	SLN	Subline Item Detail	O	1000				N/A
*	0500	PRF	Purchase Order Reference	O	1				N/A
*	0600	PO4	Item Physical Details	O	1				N/A
*	0700	PID	Product/Item Description	O	200				N/A
*	0800	MEA	Measurements	O	40				N/A
*	0900	PWK	Paperwork	O	25				N/A
*	1000	PKG	Marking, Packaging, Loading	O	25				N/A
	1100	TD1	Carrier Details (Quantity and Weight)	O	20			Used	19
*	1200	TD5	Carrier Details (Routing Sequence/Transit Time)	O	12				N/A
	* LOOP ID - TD3					**12**			N/A
	1300	TD3	Carrier Details (Equipment)	O	1				N/A
*	1350	AT9	Trailer or Container Dimension and Weight	O	1				N/A
*	1400	TD4	Carrier Details (Special	O	5				N/A

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
			Handling, or Hazardous Materials, or Both)						
*	1450	TSD	Trailer Shipment Details	O	1				N/A
	1500	REF	Reference Information	O	>1			Used	21
*	1510	PER	Administrative Communications Contact	O	3				N/A
	* LOOP ID - LH1					**100**			N/A
*	1520	LH1	Hazardous Identification Information	O	1				N/A
*	1530	LH2	Hazardous Classification Information	O	4				N/A
*	1540	LH3	Hazardous Material Shipping Name Information	O	12				N/A
*	1550	LFH	Free-form Hazardous Material Information	O	20				N/A
*	1560	LEP	EPA Required Data	O	>1				N/A
*	1570	LH4	Canadian Dangerous Requirements	O	4				N/A
*	1580	LHT	Transborder Hazardous Requirements	O	3				N/A
*	1590	LHR	Hazardous Material Identifying Reference Numbers	O	10				N/A
*	1600	PER	Administrative Communications Contact	O	5				N/A
*	1610	LHE	Empty Equipment Hazardous Material Information	O	1				N/A
	* LOOP ID - CLD					**200**			N/A
*	1700	CLD	Load Detail	O	1				N/A
*	1800	REF	Reference Information	O	200				N/A
*	1850	DTP	Date or Time or Period	O	1				N/A
	1900	MAN	Marks and Numbers Information	O	>1			Used	22
	2000	DTM	Date/Time Reference	O	10			Used	23
*	2100	FOB	F.O.B. Related Instructions	O	1				N/A
*	2150	PAL	Pallet Type and Load Characteristics	O	1				N/A
	LOOP ID - N1					**200**			24
	2200	N1	Party Identification	O	1			Used	25
	2300	N2	Additional Name Information	O	2			Used	26
	2400	N3	Party Location	O	2			Used	27
	2500	N4	Geographic Location	O	1			Used	28
*	2600	REF	Reference Information	O	12				N/A
*	2700	PER	Administrative Communications Contact	O	3				N/A
*	2800	FOB	F.O.B. Related Instructions	O	1				N/A

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
*	2900	SDQ	Destination Quantity	O	50				N/A
*	3000	ETD	Excess Transportation Detail	O	1				N/A
*	3100	CUR	Currency	O	1				N/A
	* LOOP ID - SAC					**≥1**			N/A
*	3200	SAC	Service, Promotion, Allowance, or Charge Information	O	1				N/A
*	3250	CUR	Currency	O	1				N/A
*	3300	GF	Furnished Goods and Services	O	1				N/A
*	3350	YNQ	Yes/No Question	O	10				N/A
	* LOOP ID - LM					**10**			N/A
*	3400	LM	Code Source Information	O	1				N/A
*	3500	LQ	Industry Code Identification	M	100				N/A
	* LOOP ID - V1					**≥1**			N/A
*	3600	V1	Vessel Identification	O	1				N/A
*	3700	R4	Port or Terminal	O	>1				N/A
*	3800	DTM	Date/Time Reference	O	>1				N/A
	LOOP ID - HL					**200000**	**C2/0100L**		29
	0100	HL	Hierarchical Level - Order	M	1		C2/0100	Must use	30
*	0200	LIN	Item Identification	O	1				N/A
	0300	SN1	Item Detail (Shipment)	O	1			Used	31
*	0400	SLN	Subline Item Detail	O	1000				N/A
	0500	PRF	Purchase Order Reference	O	1			Must use	32
*	0600	PO4	Item Physical Details	O	1				N/A
*	0700	PID	Product/Item Description	O	200				N/A
*	0800	MEA	Measurements	O	40				N/A
*	0900	PWK	Paperwork	O	25				N/A
	1000	PKG	Marking, Packaging, Loading	O	25			Used	33
*	1100	TD1	Carrier Details (Quantity and Weight)	O	20				N/A
*	1200	TD5	Carrier Details (Routing Sequence/Transit Time)	O	12				N/A
	* LOOP ID - TD3					**12**			N/A
*	1300	TD3	Carrier Details (Equipment)	O	1				N/A
*	1350	AT9	Trailer or Container Dimension and Weight	O	1				N/A
*	1400	TD4	Carrier Details (Special Handling, or Hazardous Materials, or Both)	O	5				N/A
*	1450	TSD	Trailer Shipment Details	O	1				N/A
	1500	REF	Reference Information	O	>1			Used	34
*	1510	PER	Administrative Communications Contact	O	3				N/A

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
	* LOOP ID - LH1					**100**			N/A
*	1520	LH1	Hazardous Identification Information	O	1				N/A
*	1530	LH2	Hazardous Classification Information	O	4				N/A
*	1540	LH3	Hazardous Material Shipping Name Information	O	12				N/A
*	1550	LFH	Free-form Hazardous Material Information	O	20				N/A
*	1560	LEP	EPA Required Data	O	>1				N/A
*	1570	LH4	Canadian Dangerous Requirements	O	4				N/A
*	1580	LHT	Transborder Hazardous Requirements	O	3				N/A
*	1590	LHR	Hazardous Material Identifying Reference Numbers	O	10				N/A
*	1600	PER	Administrative Communications Contact	O	5				N/A
*	1610	LHE	Empty Equipment Hazardous Material Information	O	1				N/A
	* LOOP ID - CLD					**200**			N/A
*	1700	CLD	Load Detail	O	1				N/A
*	1800	REF	Reference Information	O	200				N/A
*	1850	DTP	Date or Time or Period	O	1				N/A
*	1900	MAN	Marks and Numbers Information	O	>1				N/A
*	2000	DTM	Date/Time Reference	O	10				N/A
*	2100	FOB	F.O.B. Related Instructions	O	1				N/A
*	2150	PAL	Pallet Type and Load Characteristics	O	1				N/A
	LOOP ID - N1					**200**			35
	2200	N1	Party Identification	O	1			Used	36
*	2300	N2	Additional Name Information	O	2				N/A
*	2400	N3	Party Location	O	2				N/A
*	2500	N4	Geographic Location	O	1				N/A
*	2600	REF	Reference Information	O	12				N/A
*	2700	PER	Administrative Communications Contact	O	3				N/A
*	2800	FOB	F.O.B. Related Instructions	O	1				N/A
*	2900	SDQ	Destination Quantity	O	50				N/A
*	3000	ETD	Excess Transportation Detail	O	1				N/A
*	3100	CUR	Currency	O	1				N/A
	* LOOP ID - SAC					**>1**			N/A

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
*	3200	SAC	Service, Promotion, Allowance, or Charge Information	O	1				N/A
*	3250	CUR	Currency	O	1				N/A
*	3300	GF	Furnished Goods and Services	O	1				N/A
*	3350	YNQ	Yes/No Question	O	10				N/A
	* LOOP ID - LM					**10**			N/A
*	3400	LM	Code Source Information	O	1				N/A
*	3500	LQ	Industry Code Identification	M	100				N/A
	* LOOP ID - V1					**>1**			N/A
*	3600	V1	Vessel Identification	O	1				N/A
*	3700	R4	Port or Terminal	O	>1				N/A
*	3800	DTM	Date/Time Reference	O	>1				N/A
	LOOP ID - HL					**200000**	**C2/0100L**		38
	0100	HL	Hierarchical Level - Tare	O	1		C2/0100	Used	39
*	0200	LIN	Item Identification	O	1				N/A
*	0300	SN1	Item Detail (Shipment)	O	1				N/A
*	0400	SLN	Subline Item Detail	O	1000				N/A
*	0500	PRF	Purchase Order Reference	O	1				N/A
*	0600	PO4	Item Physical Details	O	1				N/A
*	0700	PID	Product/Item Description	O	200				N/A
*	0800	MEA	Measurements	O	40				N/A
*	0900	PWK	Paperwork	O	25				N/A
	1000	PKG	Marking, Packaging, Loading	O	25			Used	40
	1100	TD1	Carrier Details (Quantity and Weight)	O	20			Used	41
*	1200	TD5	Carrier Details (Routing Sequence/Transit Time)	O	12				N/A
	* LOOP ID - TD3					**12**			N/A
*	1300	TD3	Carrier Details (Equipment)	O	1				N/A
*	1350	AT9	Trailer or Container Dimension and Weight	O	1				N/A
*	1400	TD4	Carrier Details (Special Handling, or Hazardous Materials, or Both)	O	5				N/A
*	1450	TSD	Trailer Shipment Details	O	1				N/A
	1500	REF	Reference Information	O	>1			Used	42
*	1510	PER	Administrative Communications Contact	O	3				N/A
	* LOOP ID - LH1					**100**			N/A
*	1520	LH1	Hazardous Identification Information	O	1				N/A
*	1530	LH2	Hazardous Classification Information	O	4				N/A

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
*	1540	LH3	Hazardous Material Shipping Name Information	O	12				N/A
*	1550	LFH	Free-form Hazardous Material Information	O	20				N/A
*	1560	LEP	EPA Required Data	O	>1				N/A
*	1570	LH4	Canadian Dangerous Requirements	O	4				N/A
*	1580	LHT	Transborder Hazardous Requirements	O	3				N/A
*	1590	LHR	Hazardous Material Identifying Reference Numbers	O	10				N/A
*	1600	PER	Administrative Communications Contact	O	5				N/A
*	1610	LHE	Empty Equipment Hazardous Material Information	O	1				N/A
* LOOP ID - CLD						**200**			N/A
*	1700	CLD	Load Detail	O	1				N/A
*	1800	REF	Reference Information	O	200				N/A
*	1850	DTP	Date or Time or Period	O	1				N/A
	1900	MAN	Marks and Numbers Information	O	>1			Used	43
*	2000	DTM	Date/Time Reference	O	10				N/A
*	2100	FOB	F.O.B. Related Instructions	O	1				N/A
*	2150	PAL	Pallet Type and Load Characteristics	O	1				N/A
LOOP ID - N1						**200**			44
	2200	N1	Party Identification	O	1			Used	45
*	2300	N2	Additional Name Information	O	2				N/A
*	2400	N3	Party Location	O	2				N/A
*	2500	N4	Geographic Location	O	1				N/A
*	2600	REF	Reference Information	O	12				N/A
*	2700	PER	Administrative Communications Contact	O	3				N/A
*	2800	FOB	F.O.B. Related Instructions	O	1				N/A
*	2900	SDQ	Destination Quantity	O	50				N/A
*	3000	ETD	Excess Transportation Detail	O	1				N/A
*	3100	CUR	Currency	O	1				N/A
* LOOP ID - SAC						**>1**			N/A
*	3200	SAC	Service, Promotion, Allowance, or Charge Information	O	1				N/A
*	3250	CUR	Currency	O	1				N/A
*	3300	GF	Furnished Goods and	O	1				N/A

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
			Services						
*	3350	YNQ	Yes/No Question	O	10				N/A
	*** LOOP ID - LM**					**10**			N/A
*	3400	LM	Code Source Information	O	1				N/A
*	3500	LQ	Industry Code Identification	M	100				N/A
	*** LOOP ID - V1**					**>1**			N/A
*	3600	V1	Vessel Identification	O	1				N/A
*	3700	R4	Port or Terminal	O	>1				N/A
*	3800	DTM	Date/Time Reference	O	>1				N/A
	LOOP ID - HL					**200000**	**C2/0100L**		46
	0100	HL	Hierarchical Level - Pack	M	1		C2/0100	Must use	47
	0200	LIN	Item Identification	O	1			Must use	48
	0300	SN1	Item Detail (Shipment)	O	1			Must use	52
	0400	SLN	Subline Item Detail	O	1000			Used	53
*	0500	PRF	Purchase Order Reference	O	1				N/A
*	0600	PO4	Item Physical Details	O	1				N/A
	0700	PID	Product/Item Description	O	200			Used	56
*	0800	MEA	Measurements	O	40				N/A
*	0900	PWK	Paperwork	O	25				N/A
*	1000	PKG	Marking, Packaging, Loading	O	25				N/A
*	1100	TD1	Carrier Details (Quantity and Weight)	O	20				N/A
*	1200	TD5	Carrier Details (Routing Sequence/Transit Time)	O	12				N/A
	*** LOOP ID - TD3**					**12**			N/A
*	1300	TD3	Carrier Details (Equipment)	O	1				N/A
*	1350	AT9	Trailer or Container Dimension and Weight	O	1				N/A
*	1400	TD4	Carrier Details (Special Handling, or Hazardous Materials, or Both)	O	5				N/A
*	1450	TSD	Trailer Shipment Details	O	1				N/A
	1500	REF	Reference Information	O	>1			Used	58
*	1510	PER	Administrative Communications Contact	O	3				N/A
	*** LOOP ID - LH1**					**100**			N/A
*	1520	LH1	Hazardous Identification Information	O	1				N/A
*	1530	LH2	Hazardous Classification Information	O	4				N/A
*	1540	LH3	Hazardous Material Shipping Name Information	O	12				N/A
*	1550	LFH	Free-form Hazardous Material Information	O	20				N/A

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
*	1560	LEP	EPA Required Data	O	>1				N/A
*	1570	LH4	Canadian Dangerous Requirements	O	4				N/A
*	1580	LHT	Transborder Hazardous Requirements	O	3				N/A
*	1590	LHR	Hazardous Material Identifying Reference Numbers	O	10				N/A
*	1600	PER	Administrative Communications Contact	O	5				N/A
*	1610	LHE	Empty Equipment Hazardous Material Information	O	1				N/A
	* LOOP ID - CLD					**200**			N/A
*	1700	CLD	Load Detail	O	1				N/A
*	1800	REF	Reference Information	O	200				N/A
*	1850	DTP	Date or Time or Period	O	1				N/A
*	1900	MAN	Marks and Numbers Information	O	>1				N/A
*	2000	DTM	Date/Time Reference	O	10				N/A
*	2100	FOB	F.O.B. Related Instructions	O	1				N/A
*	2150	PAL	Pallet Type and Load Characteristics	O	1				N/A
	* LOOP ID - N1					**200**			N/A
	2200	N1	Party Identification	O	1				N/A
*	2300	N2	Additional Name Information	O	2				N/A
*	2400	N3	Party Location	O	2				N/A
*	2500	N4	Geographic Location	O	1				N/A
*	2600	REF	Reference Information	O	12				N/A
*	2700	PER	Administrative Communications Contact	O	3				N/A
*	2800	FOB	F.O.B. Related Instructions	O	1				N/A
*	2900	SDQ	Destination Quantity	O	50				N/A
*	3000	ETD	Excess Transportation Detail	O	1				N/A
*	3100	CUR	Currency	O	1				N/A
	* LOOP ID - SAC					**>1**			N/A
*	3200	SAC	Service, Promotion, Allowance, or Charge Information	O	1				N/A
*	3250	CUR	Currency	O	1				N/A
*	3300	GF	Furnished Goods and Services	O	1				N/A
*	3350	YNQ	Yes/No Question	O	10				N/A
	* LOOP ID - LM					**10**			N/A
*	3400	LM	Code Source Information	O	1				N/A
*	3500	LQ	Industry Code	M	100				N/A

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
			Identification						
	* LOOP ID - V1					**≥1**			N/A
*	3600	V1	Vessel Identification	O	1				N/A
*	3700	R4	Port or Terminal	O	>1				N/A
*	3800	DTM	Date/Time Reference	O	>1				N/A
	LOOP ID - HL					**1**			59
	0100	HL	Hierarchical Level	M	1		C2/0100	Must use	60
	0200	LIN	Item Identification	O	1			Must use	61
	0300	SN1	Item Detail (Shipment)	O	1			Must use	64
*	0400	SLN	Subline Item Detail	O	1000				N/A
*	0500	PRF	Purchase Order Reference	O	1				N/A
*	0600	PO4	Item Physical Details	O	1				N/A
	0700	PID	Product/Item Description	O	200			Used	65
*	0800	MEA	Measurements	O	40				N/A
*	0900	PWK	Paperwork	O	25				N/A
*	1000	PKG	Marking, Packaging, Loading	O	25				N/A
*	1100	TD1	Carrier Details (Quantity and Weight)	O	20				N/A
*	1200	TD5	Carrier Details (Routing Sequence/Transit Time)	O	12				N/A
	* LOOP ID - TD3					**12**			N/A
*	1300	TD3	Carrier Details (Equipment)	O	1				N/A
*	1350	AT9	Trailer or Container Dimension and Weight	O	1				N/A
*	1400	TD4	Carrier Details (Special Handling, or Hazardous Materials, or Both)	O	5				N/A
*	1450	TSD	Trailer Shipment Details	O	1				N/A
*	1500	REF	Reference Information	O	>1				N/A
*	1510	PER	Administrative Communications Contact	O	3				N/A
	* LOOP ID - LH1					**100**			N/A
*	1520	LH1	Hazardous Identification Information	O	1				N/A
*	1530	LH2	Hazardous Classification Information	O	4				N/A
*	1540	LH3	Hazardous Material Shipping Name Information	O	12				N/A
*	1550	LFH	Free-form Hazardous Material Information	O	20				N/A
*	1560	LEP	EPA Required Data	O	>1				N/A
*	1570	LH4	Canadian Dangerous Requirements	O	4				N/A
*	1580	LHT	Transborder Hazardous Requirements	O	3				N/A

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
*	1590	LHR	Hazardous Material Identifying Reference Numbers	O	10				N/A
*	1600	PER	Administrative Communications Contact	O	5				N/A
*	1610	LHE	Empty Equipment Hazardous Material Information	O	1				N/A
	* LOOP ID - CLD					**200**			N/A
*	1700	CLD	Load Detail	O	1				N/A
*	1800	REF	Reference Information	O	200				N/A
*	1850	DTP	Date or Time or Period	O	1				N/A
	1900	MAN	Marks and Numbers Information	O	>1			Used	67
	2000	DTM	Date/Time Reference	O	10			Used	68
*	2100	FOB	F.O.B. Related Instructions	O	1				N/A
*	2150	PAL	Pallet Type and Load Characteristics	O	1				N/A
	* LOOP ID - N1					**200**			N/A
	2200	N1	Party Identification	O	1				N/A
	2300	N2	Additional Name Information	O	2				N/A
	2400	N3	Party Location	O	2				N/A
	2500	N4	Geographic Location	O	1				N/A
*	2600	REF	Reference Information	O	12				N/A
*	2700	PER	Administrative Communications Contact	O	3				N/A
*	2800	FOB	F.O.B. Related Instructions	O	1				N/A
*	2900	SDQ	Destination Quantity	O	50				N/A
*	3000	ETD	Excess Transportation Detail	O	1				N/A
*	3100	CUR	Currency	O	1				N/A
	* LOOP ID - SAC					**>1**			N/A
*	3200	SAC	Service, Promotion, Allowance, or Charge Information	O	1				N/A
*	3250	CUR	Currency	O	1				N/A
*	3300	GF	Furnished Goods and Services	O	1				N/A
*	3350	YNQ	Yes/No Question	O	10				N/A
	* LOOP ID - LM					**10**			N/A
*	3400	LM	Code Source Information	O	1				N/A
*	3500	LQ	Industry Code Identification	M	100				N/A
	* LOOP ID - V1					**>1**			N/A
*	3600	V1	Vessel Identification	O	1				N/A
*	3700	R4	Port or Terminal	O	>1				N/A

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
*	3800	DTM	Date/Time Reference	O	>1				N/A
	*** LOOP ID - HL**					**200000**	**C2/0100L**		N/A
	0100	HL	Hierarchical Level - Item	M	1		C2/0100		N/A
	0200	LIN	Item Identification	O	1				N/A
	0300	SN1	Item Detail (Shipment)	O	1				N/A
*	0400	SLN	Subline Item Detail	O	1000				N/A
*	0500	PRF	Purchase Order Reference	O	1				N/A
	0600	PO4	Item Physical Details	O	1				N/A
	0700	PID	Product/Item Description	O	200				N/A
*	0800	MEA	Measurements	O	40				N/A
*	0900	PWK	Paperwork	O	25				N/A
	1000	PKG	Marking, Packaging, Loading	O	25				N/A
*	1100	TD1	Carrier Details (Quantity and Weight)	O	20				N/A
*	1200	TD5	Carrier Details (Routing Sequence/Transit Time)	O	12				N/A
	*** LOOP ID - TD3**					**12**			N/A
*	1300	TD3	Carrier Details (Equipment)	O	1				N/A
*	1350	AT9	Trailer or Container Dimension and Weight	O	1				N/A
*	1400	TD4	Carrier Details (Special Handling, or Hazardous Materials, or Both)	O	5				N/A
*	1450	TSD	Trailer Shipment Details	O	1				N/A
	1500	REF	Reference Information	O	>1				N/A
*	1510	PER	Administrative Communications Contact	O	3				N/A
	*** LOOP ID - LH1**					**100**			N/A
*	1520	LH1	Hazardous Identification Information	O	1				N/A
*	1530	LH2	Hazardous Classification Information	O	4				N/A
*	1540	LH3	Hazardous Material Shipping Name Information	O	12				N/A
*	1550	LFH	Free-form Hazardous Material Information	O	20				N/A
*	1560	LEP	EPA Required Data	O	>1				N/A
*	1570	LH4	Canadian Dangerous Requirements	O	4				N/A
*	1580	LHT	Transborder Hazardous Requirements	O	3				N/A
*	1590	LHR	Hazardous Material Identifying Reference Numbers	O	10				N/A
*	1600	PER	Administrative Communications Contact	O	5				N/A

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
*	1610	LHE	Empty Equipment Hazardous Material Information	O	1				N/A
	*** LOOP ID - CLD**					**200**			N/A
*	1700	CLD	Load Detail	O	1				N/A
*	1800	REF	Reference Information	O	200				N/A
*	1850	DTP	Date or Time or Period	O	1				N/A
*	1900	MAN	Marks and Numbers Information	O	>1				N/A
	2000	DTM	Date/Time Reference	O	10				N/A
*	2100	FOB	F.O.B. Related Instructions	O	1				N/A
*	2150	PAL	Pallet Type and Load Characteristics	O	1				N/A
	*** LOOP ID - N1**					**200**			N/A
*	2200	N1	Party Identification	O	1				N/A
*	2300	N2	Additional Name Information	O	2				N/A
*	2400	N3	Party Location	O	2				N/A
*	2500	N4	Geographic Location	O	1				N/A
*	2600	REF	Reference Information	O	12				N/A
*	2700	PER	Administrative Communications Contact	O	3				N/A
*	2800	FOB	F.O.B. Related Instructions	O	1				N/A
*	2900	SDQ	Destination Quantity	O	50				N/A
*	3000	ETD	Excess Transportation Detail	O	1				N/A
*	3100	CUR	Currency	O	1				N/A
	*** LOOP ID - SAC**					**>1**			N/A
*	3200	SAC	Service, Promotion, Allowance, or Charge Information	O	1				N/A
*	3250	CUR	Currency	O	1				N/A
*	3300	GF	Furnished Goods and Services	O	1				N/A
*	3350	YNQ	Yes/No Question	O	10				N/A
	*** LOOP ID - LM**					**10**			N/A
*	3400	LM	Code Source Information	O	1				N/A
*	3500	LQ	Industry Code Identification	M	100				N/A
	*** LOOP ID - V1**					**>1**			N/A
*	3600	V1	Vessel Identification	O	1				N/A
*	3700	R4	Port or Terminal	O	>1				N/A
*	3800	DTM	Date/Time Reference	O	>1				N/A

Summary:

	Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page

Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage	Page
0100	CTT	Transaction Totals	O	1		N3/0100	Used	69
0200	SE	Transaction Set Trailer	M	1			Must use	70

Notes:

3/0100   Number of line items (CTT01) is the accumulation of the number of HL segments. If used, hash total (CTT02) is the sum of the value of units shipped (SN102) for each SN1 segment.

Comments:

2/0100L   The HL segment is the only mandatory segment within the HL loop, and by itself, the HL segment has no meaning.

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2/0100L   The HL segment is the only mandatory segment within the HL loop, and by itself, the HL segment has no meaning.

2/0100   The HL segment is the only mandatory segment within the HL loop, and by itself, the HL segment has no meaning.

ST Transaction Set Header

<div style="border:1px solid">

Pos: 0100   **Max: 1**

Heading - Mandatory

Loop: N/A   **Elements: 2**

</div>

User Option (Usage): Must use

Purpose: To indicate the start of a transaction set and to assign a control number

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
ST01	143	**Transaction Set Identifier Code**	M	ID	3/3	Must use

Description: Code identifying a Transaction Set

Note 1: *856 Ship Notice/Manifest - Produce Traceability Initiative (PTI)*

Code List Summary (Total Codes: 322, Included: 1)

Code Name

856   Ship Notice/Manifest

Ref	Id	Element Name	Req	Type	Min/Max	Usage
ST02	329	**Transaction Set Control Number**	M	AN	4/9	Must use

Description: Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set

Semantics:

1. The transaction set identifier (ST01) is used by the translation routines of the interchange partners to select the appropriate transaction set definition (e.g., 810 selects the Invoice Transaction Set).

2. The implementation convention reference (ST03) is used by the translation routines of the interchange partners to select the appropriate implementation convention to match the transaction set definition. When used, this implementation convention reference takes precedence over the implementation reference specified in the GS08.

BSN   Beginning Segment for Ship Notice

Pos: 0200	**Max: 1**
Heading - Mandatory	
Loop: N/A	**Elements: 5**

User Option (Usage): Must use

Purpose: To transmit identifying numbers, dates, and other basic data relating to the transaction set

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
BSN01	353	**Transaction Set Purpose Code**	M	ID	2/2	Must use

Description: Code identifying purpose of transaction set

Code List Summary (Total Codes: 76, Included: 2)

Code	Name
00	Original
05	Replace

> **Note 1:**
> *This file replaces a prior file with the same shipment identification value.*

Ref	Id	Element Name	Req	Type	Min/Max	Usage
BSN02	396	**Shipment Identification**	M	AN	2/30	Must use

Description: A unique control number assigned by the original shipper to identify a specific shipment

Ref	Id	Element Name	Req	Type	Min/Max	Usage
BSN03	373	**Date**	M	DT	8/8	Must use

Description: Date expressed as CCYYMMDD where CC represents the first two digits of the calendar year

Ref	Id	Element Name	Req	Type	Min/Max	Usage
BSN04	337	**Time**	M	TM	4/8	Must use

Description: Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)

Ref	Id	Element Name	Req	Type	Min/Max	Usage
BSN05	1005	**Hierarchical Structure Code**	O	ID	4/4	Used

Description: Code indicating the hierarchical application structure of a transaction set that utilizes the HL segment to define the structure of the transaction set

Code List Summary (Total Codes: 83, Included: 1)

Code	Name
0009	Shipment, Order, Tare, Pack, Batch, Item

> **Note 1:**
> *Shipment / Order / Tare / Pack / Batch*

Syntax Rules:

1. C0706 - If BSN07 is present, then BSN06 is required.

Semantics:

1. BSN03 is the date the shipment transaction set is created.
2. BSN04 is the time the shipment transaction set is created.
3. BSN06 is limited to shipment related codes.

Comments:

1. BSN06 and BSN07 differentiate the functionality of use for the transaction set.

Loop Hierarchical Level

Pos: 0100   **Repeat: 200000**

Mandatory

Loop: HL   **Elements: N/A**

User Option (Usage): Must use

Purpose: To identify dependencies among and the content of hierarchically related groups of data segments

Note 1:

Shipment Level

Loop Summary:

Pos	Id	Segment Name	Req	Max Use	Repeat	Usage
0100	HL	Hierarchical Level	M	1		Must use
1100	TD1	Carrier Details (Quantity and Weight)	O	20		Used
1500	REF	Reference Information	O	>1		Used
1900	MAN	Marks and Numbers Information	O	>1		Used
2000	DTM	Date/Time Reference	O	10		Used
2200		Loop N1	O		200	Used

			Pos: 0100	**Max: 1**

HL Hierarchical Level

<table>
<tr><td>Pos: 0100</td><td>Max: 1</td></tr>
<tr><td colspan="2">Detail - Mandatory</td></tr>
<tr><td>Loop: HL</td><td>Elements: 2</td></tr>
</table>

User Option (Usage): Must use

Purpose: To identify dependencies among and the content of hierarchically related groups of data segments

Note 1:

HL02 will be omitted for the first HL segment of the transaction set, since it has no parent. HL03 indicates the application context of the series of segments following the current HL segment up to the next occurrence of an HL segment, or the CTT segment, e.g., Shipment, Order, Tare, Pack, etc.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
HL01	628	**Hierarchical ID Number**	M	AN	1/12	Must use

Description: A unique number assigned by the sender to identify a particular data segment in a hierarchical structure

Note 1: *The value for HL01 for this level (shipment) is 1.*

HL03	735	**Hierarchical Level Code**	M	ID	1/2	Must use

Description: Code specifying the characteristic of a level in a hierarchical structure

Code List Summary (Total Codes: 251, Included: 1)

Code	Name
S	Shipment

Comments:

1. The HL segment is used to identify levels of detail information using a hierarchical structure, such as relating line-item data to shipment data, and packaging data to line-item data.
2. The HL segment defines a top-down/left-right ordered structure.
3. HL01 shall contain a unique alphanumeric number for each occurrence of the HL segment in the transaction set. For example, HL01 could be used to indicate the number of occurrences of the HL segment, in which case the value of HL01 would be "1" for the initial HL segment and would be incremented by one in each subsequent HL segment within the transaction.
4. HL02 identifies the hierarchical ID number of the HL segment to which the current HL segment is subordinate.
5. HL03 indicates the context of the series of segments following the current HL segment up to the next occurrence of an HL segment in the transaction. For example, HL03 is used to indicate that subsequent segments in the HL loop form a logical grouping of data referring to shipment, order, or item-level information.
6. HL04 indicates whether or not there are subordinate (or child) HL segments related to the current HL segment.

TD1 Carrier Details (Quantity and Weight)

Pos: 1100	Max: 20
Detail - Optional	
Loop: HL	**Elements: 5**

User Option (Usage): Used

Purpose: To specify the transportation details relative to commodity, weight, and quantity

Note 1:

This segment is used to specify total containers and gross weight of the shipment.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
TD101	103	**Packaging Code**	O	AN	3/5	Used

Description: Code identifying the type of packaging; Part 1: Packaging Form, Part 2: Packaging Material; if the Data Element is used, then Part 1 is always required

Code List Summary - Part 1/2 (Total Codes: 157, Included: 3)

Code	Name
AAA	Pallet, Returnable
CTN	Carton
PLT	Pallet

Code List Summary - Part 2/2 (Total Codes: 60, Included: 6)

Code	Name
03	Hard Wood
05	Soft Wood
25	Corrugated or Solid
31	Fibre
79	Plastic
94	Wood

Ref	Id	Element Name	Req	Type	Min/Max	Usage
TD102	80	**Lading Quantity**	X	N0	1/7	Used

Description: Number of units (pieces) of the lading commodity

Note 1: *TD102 is the number of pallets in the shipment as described in TD101.*

Ref	Id	Element Name	Req	Type	Min/Max	Usage
TD106	187	**Weight Qualifier**	O	ID	1/2	Used

Description: Code specifying the type of weight

Code List Summary (Total Codes: 53, Included: 1)

Code	Name
G	Gross Weight

Ref	Id	Element Name	Req	Type	Min/Max	Usage
TD107	81	**Weight**	X	R	1/10	Used

Description: Numeric value of weight

Ref	Id	Element Name	Req	Type	Min/Max	Usage
TD108	355	**Unit or Basis for Measurement Code**	X	ID	2/2	Used

Description: Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken

Code List Summary (Total Codes: 914, Included: 2)

Code **Name**

KG   Kilogram

LB   Pound

Syntax Rules:

1. C0102 - If TD101 is present, then TD102 is required.
2. C0304 - If TD103 is present, then TD104 is required.
3. C0607 - If TD106 is present, then TD107 is required.
4. P0708 - If either TD107 or TD108 is present, then the other is required.
5. P0910 - If either TD109 or TD110 is present, then the other is required.

REF   Reference Information

Pos: 1500	**Max: >1**
Detail - Optional	
Loop: HL	**Elements: 2**

User Option (Usage): Used

Purpose: To specify identifying information

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
REF01	128	**Reference Identification Qualifier**	M	ID	2/3	Must use

Description: Code identifying the Reference Identification

Code List Summary (Total Codes: 1873, Included: 3)

Code	Name
BM	Bill of Lading Number
DJ	Delivery Ticket Number
TPS	Temperature Recorder Serial Number

Ref	Id	Element Name	Req	Type	Min/Max	Usage
REF02	127	**Reference Identification**	X	AN	1/80	Used

Description: Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier

Syntax Rules:

1. R0203 - At least one of REF02 or REF03 is required.

Semantics:

1. REF04 contains data relating to the value cited in REF02.

MAN Marks and Numbers Information

Pos: 1900   Max: >1
Detail - Optional
Loop: HL   Elements: 2

User Option (Usage): Used

Purpose: To indicate identifying marks and numbers for shipping containers

Note 1:

This segment is used to specify a single GS1-128 Serial Shipping Container Code to identify an entire shipment, e.g. a full trailer.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
MAN01	88	**Marks and Numbers Qualifier**	M	ID	1/2	Must use

Description: Code specifying the application or source of Marks and Numbers (87)

Code List Summary (Total Codes: 31, Included: 1)

Code	Name
GM	EAN.UCC Serial Shipping Container Code (SSCC) and Application Identifier

Ref	Id	Element Name	Req	Type	Min/Max	Usage
MAN02	87	**Marks and Numbers**	M	AN	1/48	Must use

Description: Marks and numbers used to identify a shipment or parts of a shipment

Syntax Rules:

1. P0405 - If either MAN04 or MAN05 is present, then the other is required.
2. C0605 - If MAN06 is present, then MAN05 is required.

Semantics:

1. MAN01/MAN02 and MAN04/MAN05 may be used to identify two different marks and numbers assigned to the same physical container.
2. When both MAN02 and MAN03 are used, MAN02 is the starting number of a sequential range and MAN03 is the ending number of that range.
3. When both MAN05 and MAN06 are used, MAN05 is the starting number of a sequential range, and MAN06 is the ending number of that range.

Comments:

1. When MAN01 contains code "UC" (U.P.C. Shipping Container Code) and MAN05/MAN06 contain a range of ID numbers, MAN03 is not used. The reason for this is that the U.P.C. Shipping Container code is the same on every carton that is represented in the range in MAN05/MAN06.
2. MAN03 and/or MAN06 are only used when sending a range(s) of ID numbers.
3. When both MAN02/MAN03 and MAN05/MAN06 are used to send ranges of ID numbers, the integrity of the two ID numbers must be maintained.

DTM Date/Time Reference

Pos: 2000	**Max: 10**
Detail - Optional	
Loop: HL	**Elements: 3**

User Option (Usage): Used

Purpose: To specify pertinent dates and times

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
DTM01	374	**Date/Time Qualifier**	M	ID	3/3	Must use

Description: Code specifying type of date or time, or both date and time

Code List Summary (Total Codes: 1317, Included: 4)

Code	Name
002	Delivery Requested

> **Note 1:**
>
> *Date from purchase order.*

Code	Name
011	Shipped
017	Estimated Delivery
067	Current Schedule Delivery

Ref	Id	Element Name	Req	Type	Min/Max	Usage
DTM02	373	**Date**	X	DT	8/8	Used

Description: Date expressed as CCYYMMDD where CC represents the first two digits of the calendar year

Ref	Id	Element Name	Req	Type	Min/Max	Usage
DTM03	337	**Time**	X	TM	4/8	Used

Description: Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)

Syntax Rules:

1. R020305 - At least one of DTM02, DTM03 or DTM05 is required.
2. C0403 - If DTM04 is present, then DTM03 is required.
3. P0506 - If either DTM05 or DTM06 is present, then the other is required.

Loop Party Identification

Pos: 2200	**Repeat: 200**
Optional	
Loop: N1	**Elements: N/A**

User Option (Usage): Used

Purpose: To identify a party by type of organization, name, and code

Note 1:

This N1 loop is used to identify parties relevant to the Shipment level.

Loop Summary:

Pos	Id	Segment Name	Req	Max Use	Repeat	Usage
2200	N1	Party Identification	O	1		Used
2300	N2	Additional Name Information	O	2		Used
2400	N3	Party Location	O	2		Used
2500	N4	Geographic Location	O	1		Used

N1   Party Identification

<div style="border:1px solid">

Pos: 2200   **Max: 1**

Detail - Optional

Loop: N1   **Elements: 4**

</div>

User Option (Usage): Used

Purpose: To identify a party by type of organization, name, and code

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N101	98	**Entity Identifier Code**	M	ID	2/3	Must use

Description: Code identifying an organizational entity, a physical location, property or an individual

Code List Summary (Total Codes: 1536, Included: 3)

Code	Name
SF	Ship From
ST	Ship To

Note 1:

Destination to where the shipment is being delivered, such as a distribution center, warehouse, etc.

Code	Name
VN	Vendor

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N102	93	**Name**	X	AN	1/60	Used

Description: Free-form name

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N103	66	**Identification Code Qualifier**	X	ID	1/2	Used

Description: Code specifying the system/method of code structure used for Identification Code (67)

Code List Summary (Total Codes: 257, Included: 4)

Code	Name
9	D-U-N-S+4, D-U-N-S Number with Four Character Suffix
10	Department of Defense Activity Address Code (DODAAC)
92	Assigned by Buyer or Buyer's Agent
UL	Global Location Number (GLN)

Description: *A globally unique 13 digit code used for the identification of any physical or legal location that needs to be uniquely identified for use in the supply chain. A GS1 identification key*

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N104	67	**Identification Code**	X	AN	2/80	Used

Description: Code identifying a party or other code

Syntax Rules:

1. R0203 - At least one of N102 or N103 is required.
2. P0304 - If either N103 or N104 is present, then the other is required.

Comments:

1. This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party.
2. N105 and N106 further define the type of entity in N101.

N2   Additional Name Information

Pos: 2300 Max: 2
Detail - Optional
Loop: N1 Elements: 2

User Option (Usage): Used

Purpose: To specify additional names

Note 1:

Use only if address information for the referenced organization or company in the N1 segment can not be derived from the code in N104.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N201	93	**Name**	M	AN	1/60	Must use
		Description: Free-form name				
N202	93	**Name**	O	AN	1/60	Used
		Description: Free-form name				

N3 Party Location

<table>
<tr><td>Pos: 2400</td><td>Max: 2</td></tr>
<tr><td colspan="2">Detail - Optional</td></tr>
<tr><td>Loop: N1</td><td>Elements: 2</td></tr>
</table>

User Option (Usage): Used

Purpose: To specify the location of the named party

Note 1:

Use only if address information for the referenced organization or company in the N1 segment can not be derived from the code in N104.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N301	166	**Address Information**	M	AN	1/55	Must use
		Description: Address information				
N302	166	**Address Information**	O	AN	1/55	Used
		Description: Address information				

N4   Geographic Location

Pos: 2500   Max: 1
Detail - Optional
Loop: N1   Elements: 5

User Option (Usage): Used

Purpose: To specify the geographic place of the named party

Note 1:

Use only if address information for the referenced organization or company in the N1 segment can not be derived from the code in N104.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N401	19	**City Name**	O	AN	2/30	Used

Description: Free-form text for city name

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N402	156	**State or Province Code**	X	ID	2/2	Used

Description: Code specifying the Standard State/Province as defined by appropriate government agency

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N403	116	**Postal Code**	X	ID	3/15	Used

Description: Code specifying international postal zone code excluding punctuation and blanks (zip code for United States)

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N404	26	**Country Code**	X	ID	2/3	Used

Description: Code identifying the country

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N408	1702	**Postal Code-Formatted**	X	AN	3/20	Used

Description: A postal code value including punctuation, blanks and other characters as defined by the postal authority

Syntax Rules:

1. E0207 - Only one of N402 or N407 may be present.
2. E0308 - Only one of N403 or N408 may be present.
3. C0605 - If N406 is present, then N405 is required.
4. C0704 - If N407 is present, then N404 is required.

Comments:

1. A combination of either N401 through N404, or N405 and N406 may be adequate to specify a location.
2. N403 contains the postal code in an unstructured format. N408 contains the postal code in a structured format. When a postal code data field is used, the parties shall agree as to which data element (N403 or N408) shall be used in the transaction set.

Loop Order

Pos: 0100	Repeat: 200000
Mandatory	
Loop: HL	**Elements: N/A**

User Option (Usage): Must use

Purpose: To identify dependencies among and the content of hierarchically related groups of data segments

Loop Summary:

Pos	Id	Segment Name	Req	Max Use	Repeat	Usage
0100	HL	Hierarchical Level - Order	M	1		Must use
0300	SN1	Item Detail (Shipment)	O	1		Used
0500	PRF	Purchase Order Reference	O	1		Must use
1000	PKG	Marking, Packaging, Loading	O	25		Used
1500	REF	Reference Information	O	>1		Used
2200		Loop N1	O		200	Used

HL   Hierarchical Level - Order

Pos: 0100	**Max: 1**
Detail - Mandatory	
Loop: HL	**Elements: 3**

User Option (Usage): Must use

Purpose: To identify dependencies among and the content of hierarchically related groups of data segments

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
HL01	628	**Hierarchical ID Number**	M	AN	1/12	Must use

Description: A unique number assigned by the sender to identify a particular data segment in a hierarchical structure

Ref	Id	Element Name	Req	Type	Min/Max	Usage
HL02	734	**Hierarchical Parent ID Number**	O	AN	1/12	Used

Description: Identification number of the next higher hierarchical data segment that the data segment being described is subordinate to

Ref	Id	Element Name	Req	Type	Min/Max	Usage
HL03	735	**Hierarchical Level Code**	M	ID	1/2	Must use

Description: Code defining the characteristic of a level in a hierarchical structure

Note 1: *HL03 indicates the application context of the series of segments following the current HL segment up to the next occurrence of an HL segment, or the CTT segment, e.g., Shipment, Order, Tare, Pack, etc.*

Code List Summary (Total Codes: 251, Included: 1)

Code	Name
O	Order

SN1　Item Detail (Shipment)

Pos: 0300　　Max: 1
Detail - Optional
Loop: HL　　Elements: 2

User Option (Usage): Used

Purpose: To specify line-item detail relative to shipment

Note 1:

This segment is used to provide the number of pallets for the order.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SN102	382	**Number of Units Shipped**	M	R4	1/10	Must use

Description: Numeric value of units shipped in manufacturer's shipping units for a line item or transaction set

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SN103	355	**Unit or Basis for Measurement Code**	M	ID	2/2	Must use

Description: Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken

Code List Summary (Total Codes: 914, Included: 1)

Code	Name
PL	Pallet/Unit Load

Syntax Rules:

1. P0506 - If either SN105 or SN106 is present, then the other is required.

Semantics:

1. SN101 is the ship notice line-item identification.
2. SN105 is quantity ordered.

PRF Purchase Order Reference

Pos: 0500   Max: 1
Detail - Optional
Loop: HL   Elements: 4

User Option (Usage): Must use
Purpose: To provide reference to a specific purchase order

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PRF01	324	**Purchase Order Number**	M	AN	1/22	Must use

Description: Identifying number for Purchase Order assigned by the orderer/purchaser

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PRF02	328	**Release Number**	O	AN	1/30	Used

Description: Number identifying a release against a Purchase Order previously placed by the parties involved in the transaction

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PRF03	327	**Change Order Sequence Number**	O	AN	1/8	Used

Description: Number assigned by the orderer identifying a specific change or revision to a previously transmitted transaction set

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PRF04	373	**Date**	O	DT	8/8	Recommended

Description: Date expressed as CCYYMMDD where CC represents the first two digits of the calendar year

Semantics:

1. PRF04 is the date assigned by the purchaser to purchase order.

PKG Marking, Packaging, Loading

Pos: 1000	Max: 25
Detail - Optional	
Loop: HL	Elements: 3

User Option (Usage): Used

Purpose: To describe marking, packaging, loading, and unloading requirements

Note 1:

The PKG segment may be used to provide information about the type of pallet (i.e. CHEP, IGPS, etc.) in PKG05.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PKG01	349	**Item Description Type**	X	ID	1/1	Used

Description: Code indicating the format of a description

Code List Summary (Total Codes: 4, Included: 1)

Code	Name
F	Free-form

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PKG02	753	**Packaging Characteristic Code**	O	ID	1/5	Used

Description: Code specifying the marking, packaging, loading and related characteristics being described

Code List Summary (Total Codes: 47, Included: 1)

Code	Name
68	Skid/Pallet Type

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PKG05	352	**Description**	X	AN	1/80	Used

Description: A free-form description to clarify the related data elements and their content

Syntax Rules:

1. C0403 - If PKG04 is present, then PKG03 is required.
2. C0501 - If PKG05 is present, then PKG01 is required.
3. R040506 - At least one of PKG04, PKG05 or PKG06 is required.

Semantics:

1. PKG04 should be used for industry-specific packaging description codes.

REF Reference Information

<table>
<tr><td>Pos: 1500</td><td>Max: >1</td></tr>
<tr><td colspan="2">Detail - Optional</td></tr>
<tr><td>Loop: HL</td><td>Elements: 2</td></tr>
</table>

User Option (Usage): Used

Purpose: To specify identifying information

Note 1:

Used if this 856 transaction is a revision to a prior 856 transmission.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
REF01	128	**Reference Identification Qualifier**	M	ID	2/3	Must use

Description: Code qualifying the Reference Identification

Code List Summary (Total Codes: 1873, Included: 3)

Code	Name
IL	Internal Order Number

Note 1:

Internal Order Number

YB	Revision Number

Note 1:

This code is used to identify updates to the order.
BSN01 value must be '04' - Change

DRC	Dispute Resolution Corporation Number

Description: *Identifier assigned by DRC for tracking a fruit and vegetable industry dispute, including condition, contract and payment issues.*

Ref	Id	Element Name	Req	Type	Min/Max	Usage
REF02	127	**Reference Identification**	X	AN	1/50	Used

Description: Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier

Syntax Rules:

1. R0203 - At least one of REF02 or REF03 is required.

Loop Party Identification

<table>
<tr><td>Pos: 2200</td><td>Repeat: 200</td></tr>
<tr><td colspan="2">Optional</td></tr>
<tr><td>Loop: N1</td><td>Elements: N/A</td></tr>
</table>

User Option (Usage): Used

Purpose: To identify a party by type of organization, name, and code

Loop Summary:

Pos	Id	Segment Name	Req	Max Use	Repeat	Usage
2200	N1	Party Identification	O	1		Used

N1   Party Identification

<table>
<tr><td>Pos: 2200</td><td>Max: 1</td></tr>
<tr><td colspan="2">Detail - Optional</td></tr>
<tr><td>Loop: N1</td><td>Elements: 4</td></tr>
</table>

User Option (Usage): Used

Purpose: To identify a party by type of organization, name, and code

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N101	98	**Entity Identifier Code**	M	ID	2/3	Must use

Description: Code identifying an organizational entity, a physical location, property or an individual

Code List Summary (Total Codes: 1536, Included: 2)

Code	Name
MA	Party for whom Item is Ultimately Intended

> **Note 1:**
> *Ultimate receiving party in a cross-dock scenario.*

Code	Name
VN	Vendor

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N102	93	**Name**	X	AN	1/60	Used

Description: Free-form name

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N103	66	**Identification Code Qualifier**	X	ID	1/2	Used

Description: Code designating the system/method of code structure used for Identification Code (67)

Code List Summary (Total Codes: 257, Included: 4)

Code	Name
9	D-U-N-S+4, D-U-N-S Number with Four Character Suffix

> **Note 1:**
> *The identification code consists of a 9-digit DUNS number for the party followed by a 4-character suffix defined by the party.*

Code	Name
10	Department of Defense Activity Address Code (DODAAC)

> **Note 1:**
> *Used to identify military locations.*
> *DODAAC codes are assigned to all military locations by the Department of Defense and consist of a six-digit alpha numeric number.*

Code	Name
92	Assigned by Buyer or Buyer's Agent

> **Note 1:**
> *Code may be used to identify payer's internal identification number.*

Code	Name
UL	Global Location Number (GLN)

Description: *A globally unique 13 digit code used for the identification of any physical or legal location that needs to be uniquely identified for use in the supply chain. A GS1 identification key*

> **Note 1:**
> *The GS1 US Location Code is a thirteen digit code used to uniquely identify physical or logical locations. The right most position (position 13) is a modulus 10 check character.*

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N104	67	**Identification Code**	X	AN	2/80	Used

Ref	Id	Element Name	Req	Type	Min/Max	Usage

Description: Code identifying a party or other code

Syntax Rules:

1. P0304 - If either N103 or N104 is present, then the other is required.

2. R0203 - At least one of N102 or N103 is required.

Loop Tare

<table>
<tr><td>Pos: 0100</td><td>Repeat: 200000</td></tr>
<tr><td colspan="2" align="center">Optional</td></tr>
<tr><td>Loop: HL</td><td>Elements: N/A</td></tr>
</table>

User Option (Usage): Used

Purpose: To identify dependencies among and the content of hierarchically related groups of data segments

Note 1:

This loop provides information about the pallets.

Loop Summary:

Pos	Id	Segment Name	Req	Max Use	Repeat	Usage
0100	HL	Hierarchical Level - Tare	O	1		Used
1000	PKG	Marking, Packaging, Loading	O	25		Used
1100	TD1	Carrier Details (Quantity and Weight)	O	20		Used
1500	REF	Reference Information	O	>1		Used
1900	MAN	Marks and Numbers Information	O	>1		Used
2200		Loop N1	O		200	Used

HL   Hierarchical Level - Tare

Pos: 0100	**Max: 1**
Detail - Optional	
Loop: HL	**Elements: 3**

User Option (Usage): Used

Purpose: To identify dependencies among and the content of hierarchically related groups of data segments

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
HL01	628	**Hierarchical ID Number**	M	AN	1/12	Must use

Description: A unique number assigned by the sender to identify a particular data segment in a hierarchical structure

Ref	Id	Element Name	Req	Type	Min/Max	Usage
HL02	734	**Hierarchical Parent ID Number**	O	AN	1/12	Used

Description: Identification number of the next higher hierarchical data segment that the data segment being described is subordinate to

Ref	Id	Element Name	Req	Type	Min/Max	Usage
HL03	735	**Hierarchical Level Code**	M	ID	1/2	Must use

Description: Code defining the characteristic of a level in a hierarchical structure

Note 1: *HL03 indicates the application context of the series of segments following the current HL segment up to the next occurrence of an HL segment, or the CTT segment, e.g., Shipment, Order, Tare, Pack, etc.*

Code List Summary (Total Codes: 251, Included: 1)

Code Name

T   Shipping Tare

    Note 1:

    Pallet

PKG Marking, Packaging, Loading

<div style="border:1px solid black">

Pos: 1000   Max: 25

Detail - Optional

Loop: HL   Elements: 3

</div>

User Option (Usage): Used

Purpose: To describe marking, packaging, loading, and unloading requirements

Note 1:

The PKG segment may be used to provide information about the type of pallet (i.e. such as CHEP, IGPS, etc.) in PKG05.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PKG01	349	**Item Description Type**	X	ID	1/1	Used

Description: Code indicating the format of a description

Code List Summary (Total Codes: 4, Included: 1)

Code	Name
F	Free-form

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PKG02	753	**Packaging Characteristic Code**	O	ID	1/5	Used

Description: Code specifying the marking, packaging, loading and related characteristics being described

Code List Summary (Total Codes: 47, Included: 1)

Code	Name
68	Skid/Pallet Type

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PKG05	352	**Description**	X	AN	1/80	Used

Description: A free-form description to clarify the related data elements and their content

Syntax Rules:

1. C0403 - If PKG04 is present, then PKG03 is required.
2. C0501 - If PKG05 is present, then PKG01 is required.
3. R040506 - At least one of PKG04, PKG05 or PKG06 is required.

Semantics:

1. PKG04 should be used for industry-specific packaging description codes.

TD1 Carrier Details (Quantity and Weight)

Pos: 1100	Max: 20
Detail - Optional	
Loop: HL	**Elements: 2**

User Option (Usage): Used

Purpose: To specify the transportation details relative to commodity, weight, and quantity

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
TD101	103	**Packaging Code**	O	AN	3/5	Used

Description: Code identifying the type of packaging; Part 1: Packaging Form, Part 2: Packaging Material; if the Data Element is used, then Part 1 is always required

Code List Summary - Part 1/2 (Total Codes: 157, Included: 1)

Code	Name
CTN	Carton

Code List Summary - Part 2/2 (Total Codes: 60, Included: 6)

Code	Name
03	Hard Wood
05	Soft Wood
25	Corrugated or Solid
31	Fibre
79	Plastic
94	Wood

Ref	Id	Element Name	Req	Type	Min/Max	Usage
TD102	80	**Lading Quantity**	X	N0	1/7	Used

Description: Number of units (pieces) of the lading commodity

Syntax Rules:

1. C0102 - If TD101 is present, then TD102 is required.
2. C0304 - If TD103 is present, then TD104 is required.
3. C0607 - If TD106 is present, then TD107 is required.
4. P0708 - If either TD107 or TD108 is present, then the other is required.
5. P0910 - If either TD109 or TD110 is present, then the other is required.

REF Reference Information

Pos: 1500   Max: >1
Detail - Optional
Loop: HL   Elements: 2

User Option (Usage): Used

Purpose: To specify identifying information

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
REF01	128	**Reference Identification Qualifier**	M	ID	2/3	Must use

Description: Code qualifying the Reference Identification

Code List Summary (Total Codes: 1873, Included: 1)

Code	Name
TPS	Temperature Recorder Serial Number

Ref	Id	Element Name	Req	Type	Min/Max	Usage
REF02	127	**Reference Identification**	X	AN	1/50	Used

Description: Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier

Syntax Rules:

1. R0203 - At least one of REF02 or REF03 is required.

MAN Marks and Numbers Information

User Option (Usage): Used

Purpose: To indicate identifying marks and numbers for shipping containers

Note 1:
This segment, at the tare level, is used to specify the identification number for the pallet.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
MAN01	88	**Marks and Numbers Qualifier**	M	ID	1/2	Must use

Description: Code specifying the application or source of Marks and Numbers (87)

Code List Summary (Total Codes: 31, Included: 1)

Code	Name
GM	EAN.UCC Serial Shipping Container Code (SSCC) and Application Identifier

Ref	Id	Element Name	Req	Type	Min/Max	Usage
MAN02	87	**Marks and Numbers**	M	AN	1/48	Must use

Description: Marks and numbers used to identify a shipment or parts of a shipment

Syntax Rules:

1. C0605 - If MAN06 is present, then MAN05 is required.
2. P0405 - If either MAN04 or MAN05 is present, then the other is required.

Semantics:

1. MAN01/MAN02 and MAN04/MAN05 may be used to identify two different marks and numbers assigned to the same physical container.
2. When both MAN02 and MAN03 are used, MAN02 is the starting number of a sequential range and MAN03 is the ending number of that range.
3. When both MAN05 and MAN06 are used, MAN05 is the starting number of a sequential range, and MAN06 is the ending number of that range.

Loop Party Identification

<table>
<tr><td>Pos: 2200</td><td>Repeat: 200</td></tr>
<tr><td colspan="2">Optional</td></tr>
<tr><td>Loop: N1</td><td>Elements: N/A</td></tr>
</table>

User Option (Usage): Used

Purpose: To identify a party by type of organization, name, and code

Loop Summary:

Pos	Id	Segment Name	Req	Max Use	Repeat	Usage
2200	N1	Party Identification	O	1		Used

N1 Party Identification

<table>
<tr><td>Pos: 2200</td><td>Max: 1</td></tr>
<tr><td colspan="2">Detail - Optional</td></tr>
<tr><td>Loop: N1</td><td>Elements: 4</td></tr>
</table>

User Option (Usage): Used

Purpose: To identify a party by type of organization, name, and code

> **Note 1:**
>
> *This segment is used to identify the product destination, e.g. store, in a cross-docking environment.*

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N101	98	**Entity Identifier Code**	M	ID	2/3	Must use

Description: Code identifying an organizational entity, a physical location, property or an individual

Code List Summary (Total Codes: 1536, Included: 1)

Code	Name
SN	Store

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N102	93	**Name**	X	AN	1/60	Used

Description: Free-form name

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N103	66	**Identification Code Qualifier**	X	ID	1/2	Used

Description: Code designating the system/method of code structure used for Identification Code (67)

Code List Summary (Total Codes: 257, Included: 4)

Code	Name
9	D-U-N-S+4, D-U-N-S Number with Four Character Suffix
10	Department of Defense Activity Address Code (DODAAC)
92	Assigned by Buyer or Buyer's Agent
UL	Global Location Number (GLN)

Description: *A globally unique 13 digit code used for the identification of any physical or legal location that needs to be uniquely identified for use in the supply chain. A GS1 identification key*

Ref	Id	Element Name	Req	Type	Min/Max	Usage
N104	67	**Identification Code**	X	AN	2/80	Used

Description: Code identifying a party or other code

Syntax Rules:

1. P0304 - If either N103 or N104 is present, then the other is required.
2. R0203 - At least one of N102 or N103 is required.

Loop Pack

Pos: 0100	Repeat: 200000
Mandatory	
Loop: HL	**Elements: N/A**

User Option (Usage): Must use

Purpose: To identify dependencies among and the content of hierarchically related groups of data segments

Note 1:
This loop provides information about the cases shipped.

Loop Summary:

Pos	Id	Segment Name	Req	Max Use	Repeat	Usage
0100	HL	Hierarchical Level - Pack	M	1		Must use
0200	LIN	Item Identification	O	1		Must use
0300	SN1	Item Detail (Shipment)	O	1		Must use
0400	SLN	Subline Item Detail	O	1000		Used
0700	PID	Product/Item Description	O	200		Used
1500	REF	Reference Information	O	>1		Used

HL   Hierarchical Level - Pack

Pos: 0100   Max: 1
Detail - Mandatory
Loop: HL   Elements: 3

User Option (Usage): Must use

Purpose: To identify dependencies among and the content of hierarchically related groups of data segments

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
HL01	628	**Hierarchical ID Number**	M	AN	1/12	Must use

Description: A unique number assigned by the sender to identify a particular data segment in a hierarchical structure

HL02	734	**Hierarchical Parent ID Number**	O	AN	1/12	Used

Description: Identification number of the next higher hierarchical data segment that the data segment being described is subordinate to

HL03	735	**Hierarchical Level Code**	M	ID	1/2	Must use

Description: Code defining the characteristic of a level in a hierarchical structure

Note 1: *HL03 indicates the application context of the series of segments following the current HL segment up to the next occurrence of an HL segment, or the CTT segment, e.g., Shipment, Order, Tare, Pack, etc.*

Code List Summary (Total Codes: 251, Included: 1)

Code   Name

P   Pack

LIN Item Identification

<table>
<tr><td>Pos: 0200</td><td>Max: 1</td></tr>
<tr><td colspan="2">Detail - Optional</td></tr>
<tr><td>Loop: HL</td><td>Elements: 11</td></tr>
</table>

User Option (Usage): Must use
Purpose: To specify basic item identification data

Note 1:

To identify the country of origin for a product in a code format, the ISO Country Code is used in the LIN segment, using data elements 235 / 234 pair. GS1 US uses the ISO 3166-1 alpha-2 codes. To identify more than one country, the format is country code, followed by a space, then the next country code, etc.

*Example: Product of USA and Canada with a GTIN of 061414000010,
LIN*01*UK*00061414000010*CH*US CA~*

To identify a country and its subdivision (state/province), use the ISO 3166-1 and 3166-2 codes. The two values are separated by a hyphen.
*Example: Product of USA, from Florida, with a GTIN of 061414000031,
LIN*01*UK*0006141400031*CH*US-FL~.*

*Example: Product of USA, from California, and Chile, with a GTIN of 061414000031,
LIN*01*UK*0006141400031*CH*US-CA CL~.*

Note 2:

For the specified product, data element 235 /234 pair with Country Code (CH) may be used at either the Pack or Batch level, but not both.

Note 3:

Code denotes product growing location.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
LIN01	350	**Assigned Identification**	O	AN	1/20	Used

Description: Alphanumeric characters assigned for differentiation within a transaction set

| LIN02 | 235 | **Product/Service ID Qualifier** | M | ID | 2/2 | Must use |

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 550, Included: 4)

Code	Name
IN	Buyer's Item Number
MF	Manufacturer

Note 1:

Manufacturer's product number

| UK | GTIN-14 |

Description: *A 14-digit GS1 Identification Key composed of an Indicator Digit, GS1 Company Prefix, Item Reference and Check Digit used to identify trade items*

| VN | Vendor's (Seller's) Item Number |

| LIN03 | 234 | **Product/Service ID** | M | AN | 1/48 | Must use |

Description: Identifying number for a product or service

| LIN04 | 235 | **Product/Service ID Qualifier** | X | ID | 2/2 | Used |

Ref	Id	Element Name	Req	Type	Min/Max	Usage

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 550, Included: 8)

Code **Name**

CH   Country of Origin Code

DV   Location Code

> **Note 1:**
>
> *Code denotes product growing location.*

HA   Country Subdivision Code

Description: *ISO 3166-2 code value for state or province*

HB   Country of Origin with Country Subdivision Code

Description: *ISO 3166-1 country code value and ISO 3166-2 state or province code value*

IN   Buyer's Item Number

MF   Manufacturer

> **Note 1:**
>
> *Manufacturer's product number*

UK   GTIN-14

Description: *A 14-digit GS1 Identification Key composed of an Indicator Digit, GS1 Company Prefix, Item Reference and Check Digit used to identify trade items*

VN   Vendor's (Seller's) Item Number

Ref	Id	Element Name	Req	Type	Min/Max	Usage
LIN05	234	**Product/Service ID**	X	AN	1/48	Used

Description: Identifying number for a product or service

Ref	Id	Element Name	Req	Type	Min/Max	Usage
LIN06	235	**Product/Service ID Qualifier**	X	ID	2/2	Used

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 550, Included: 8)

Code **Name**

CH   Country of Origin Code

DV   Location Code

> **Note 1:**
>
> *Code denotes product growing location.*

HA   Country Subdivision Code

Description: *ISO 3166-2 code value for state or province*

HB   Country of Origin with Country Subdivision Code

Description: *ISO 3166-1 country code value and ISO 3166-2 state or province code value*

IN   Buyer's Item Number

MF   Manufacturer

> **Note 1:**
>
> *Manufacturer's product number*

UK   GTIN-14

Description: *A 14-digit GS1 Identification Key composed of an Indicator Digit, GS1 Company Prefix, Item Reference and Check Digit used to identify trade items*

		Code	Name
		VN	Vendor's (Seller's) Item Number

LIN07	234	**Product/Service ID**	X	AN	1/48	Used

Description: Identifying number for a product or service

LIN08	235	**Product/Service ID Qualifier**	X	ID	2/2	Used

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 550, Included: 8)

Code	Name
CH	Country of Origin Code
DV	Location Code

> **Note 1:**
> *Code denotes product growing location.*

HA	Country Subdivision Code

Description: *ISO 3166-2 code value for state or province*

HB	Country of Origin with Country Subdivision Code

Description: *ISO 3166-1 country code value and ISO 3166-2 state or province code value*

IN	Buyer's Item Number
MF	Manufacturer

> **Note 1:**
> *Manufacturer's product number*

UK	GTIN-14

Description: *A 14-digit GS1 Identification Key composed of an Indicator Digit, GS1 Company Prefix, Item Reference and Check Digit used to identify trade items*

VN	Vendor's (Seller's) Item Number

LIN09	234	**Product/Service ID**	X	AN	1/48	Used

Description: Identifying number for a product or service

LIN10	235	**Product/Service ID Qualifier**	X	ID	2/2	Used

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 550, Included: 8)

Code	Name
CH	Country of Origin Code
DV	Location Code

> **Note 1:**
> *Code denotes product growing location.*

HA	Country Subdivision Code

Description: *ISO 3166-2 code value for state or province*

HB	Country of Origin with Country Subdivision Code

Description: *ISO 3166-1 country code value and ISO 3166-2 state or province code value*

IN	Buyer's Item Number
MF	Manufacturer

	Code	**Name**
		Note 1:
		Manufacturer's product number
	UK	GTIN-14
		Description: *A 14-digit GS1 Identification Key composed of an Indicator Digit, GS1 Company Prefix, Item Reference and Check Digit used to identify trade items*
	VN	Vendor's (Seller's) Item Number

LIN11	234	**Product/Service ID**	X	AN	1/48	Used

Description: Identifying number for a product or service

Syntax Rules:

1. P0405 - If either LIN04 or LIN05 is present, then the other is required.
2. P0607 - If either LIN06 or LIN07 is present, then the other is required.
3. P0809 - If either LIN08 or LIN09 is present, then the other is required.
4. P1011 - If either LIN10 or LIN11 is present, then the other is required.
5. P1213 - If either LIN12 or LIN13 is present, then the other is required.
6. P1415 - If either LIN14 or LIN15 is present, then the other is required.
7. P1617 - If either LIN16 or LIN17 is present, then the other is required.
8. P1819 - If either LIN18 or LIN19 is present, then the other is required.
9. P2021 - If either LIN20 or LIN21 is present, then the other is required.
10. P2223 - If either LIN22 or LIN23 is present, then the other is required.
11. P2425 - If either LIN24 or LIN25 is present, then the other is required.
12. P2627 - If either LIN26 or LIN27 is present, then the other is required.
13. P2829 - If either LIN28 or LIN29 is present, then the other is required.
14. P3031 - If either LIN30 or LIN31 is present, then the other is required.

Semantics:

1. LIN01 is the line item identification

SN1   Item Detail (Shipment)

<div style="border:1px solid black">

Pos: 0300   **Max: 1**

Detail - Optional

Loop: HL   **Elements: 2**

</div>

User Option (Usage): Must use

Purpose: To specify line-item detail relative to shipment

> **Note 1:**
>
> *Quantity of cases of product specified in LIN segment.*

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SN102	382	**Number of Units Shipped**	M	R4	1/10	Must use

Description: Numeric value of units shipped in manufacturer's shipping units for a line item or transaction set

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SN103	355	**Unit or Basis for Measurement Code**	M	ID	2/2	Must use

Description: Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken

Code List Summary (Total Codes: 914, Included: 1)

Code	Name
CA	Case

> **Note 1:**
>
> *Code CA is used for all Pack containers.*

Syntax Rules:

1. P0506 - If either SN105 or SN106 is present, then the other is required.

Semantics:

1. SN101 is the ship notice line-item identification.
2. SN105 is quantity ordered.

SLN   Subline Item Detail

<table>
<tr><td>Pos: 0400</td><td>Max: 1000</td></tr>
<tr><td colspan="2">Detail - Optional</td></tr>
<tr><td>Loop: HL</td><td>Elements: 10</td></tr>
</table>

User Option (Usage): Used

Purpose: To specify product subline detail item data

Note 1:

SLN segment is used to identify product substitution. The originally ordered product is identified in this segment.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SLN01	350	**Assigned Identification**	M	AN	1/20	Must use

Description: Alphanumeric characters assigned for differentiation within a transaction set

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SLN03	662	**Relationship Code**	M	ID	1/1	Must use

Description: Code indicating the relationship between entities

Code List Summary (Total Codes: 6, Included: 1)

Code	Name
S	Substituted

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SLN04	380	**Quantity**	X	R3	1/15	Used

Description: Numeric value of quantity

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SLN05	C001	**Composite Unit of Measure**	X	Comp		Used

Description: To identify a composite unit of measure(See Figures Appendix for examples of use)

Comments:

1. If C001-02 is not used, its value is to be interpreted as 1.
2. If C001-03 is not used, its value is to be interpreted as 1.
3. If C001-05 is not used, its value is to be interpreted as 1.
4. If C001-06 is not used, its value is to be interpreted as 1.
5. If C001-08 is not used, its value is to be interpreted as 1.
6. If C001-09 is not used, its value is to be interpreted as 1.
7. If C001-11 is not used, its value is to be interpreted as 1.
8. If C001-12 is not used, its value is to be interpreted as 1.
9. If C001-14 is not used, its value is to be interpreted as 1.
10. If C001-15 is not used, its value is to be interpreted as 1.

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SLN05-01	355	**Unit or Basis for Measurement Code**	M	ID	2/2	Must use

Description: Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken

Code List Summary (Total Codes: 914, Included: 1)

Code	Name
CA	Case

Note 1:

Code CA is used for all Pack containers.

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SLN09	235	**Product/Service ID Qualifier**	X	ID	2/2	Used

Ref	Id	Element Name	Req	Type	Min/Max	Usage

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 550, Included: 4)

Code	Name
IN	Buyer's Item Number
MF	Manufacturer
UK	GTIN-14

Description: *A 14-digit GS1 Identification Key composed of an Indicator Digit, GS1 Company Prefix, Item Reference and Check Digit used to identify trade items*

VN	Vendor's (Seller's) Item Number

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SLN10	234	**Product/Service ID**	X	AN	1/48	Used

Description: Identifying number for a product or service

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SLN11	235	**Product/Service ID Qualifier**	X	ID	2/2	Used

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 550, Included: 4)

Code	Name
IN	Buyer's Item Number
MF	Manufacturer
UK	GTIN-14

Description: *A 14-digit GS1 Identification Key composed of an Indicator Digit, GS1 Company Prefix, Item Reference and Check Digit used to identify trade items*

VN	Vendor's (Seller's) Item Number

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SLN12	234	**Product/Service ID**	X	AN	1/48	Used

Description: Identifying number for a product or service

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SLN13	235	**Product/Service ID Qualifier**	X	ID	2/2	Used

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 550, Included: 4)

Code	Name
IN	Buyer's Item Number
MF	Manufacturer
UK	GTIN-14

Description: *A 14-digit GS1 Identification Key composed of an Indicator Digit, GS1 Company Prefix, Item Reference and Check Digit used to identify trade items*

VN	Vendor's (Seller's) Item Number

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SLN14	234	**Product/Service ID**	X	AN	1/48	Used

Description: Identifying number for a product or service

Syntax Rules:

1. C0706 - If SLN07 is present, then SLN06 is required.
2. C0806 - If SLN08 is present, then SLN06 is required.

3. P0405 - If either SLN04 or SLN05 is present, then the other is required.
4. P0910 - If either SLN09 or SLN10 is present, then the other is required.
5. P1112 - If either SLN11 or SLN12 is present, then the other is required.
6. P1314 - If either SLN13 or SLN14 is present, then the other is required.
7. P1516 - If either SLN15 or SLN16 is present, then the other is required.
8. P1718 - If either SLN17 or SLN18 is present, then the other is required.
9. P1920 - If either SLN19 or SLN20 is present, then the other is required.
10. P2122 - If either SLN21 or SLN22 is present, then the other is required.
11. P2324 - If either SLN23 or SLN24 is present, then the other is required.
12. P2526 - If either SLN25 or SLN26 is present, then the other is required.
13. P2728 - If either SLN27 or SLN28 is present, then the other is required.

Semantics:

1. SLN01 is the identifying number for the subline item.
2. SLN02 is the identifying number for the subline level. The subline level is analogous to the level code used in a bill of materials.
3. SLN03 is the configuration code indicating the relationship of the subline item to the baseline item.
4. SLN08 is a code indicating the relationship of the price or amount to the associated segment.

PID   Product/Item Description

<table>
<tr><td>Pos: 0700</td><td>Max: 200</td></tr>
<tr><td colspan="2">Detail - Optional</td></tr>
<tr><td>Loop: HL</td><td>Elements: 3</td></tr>
</table>

User Option (Usage): Used

Purpose: To describe a product or process in coded or free-form format

Note 1:

To send a product's country of origin in text format. Data elements used are:
PID01 - F
PID02 - MSG
PID05 - 'PRODUCT OF' statement.

Examples follow for a product of one country, a product of more than one country (separate countries by the word AND), and a product from 2 countries, one with its subdivision indicated (a hyphen separates the country from its subdivision).

Example: A product of USA would be shown as:
PID*F*MSG***PRODUCT OF USA~   (The * and ~ are EDI delimiter values.)

Example: A product of USA and Canada would be shown as:
PID*F*MSG***PRODUCT OF USA AND CANADA~.

Example: A product of California and Chile would be shown as:
PID*F*MSG***PRODUCT OF USA-CALIFORNIA AND CHILE~

Note 2:

To provide descriptive text information about a product. Data elements used are:

PID01 - F
PID05 - Text

Example: PID*F****TOMATOES RED TOV/CLUSTER - 11 LB~

Note 3:

The PID segment at either the Pack or Batch level would be used for the specified product, but not both.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PID01	349	**Item Description Type**	M	ID	1/1	Must use

Description: Code indicating the format of a description

Code List Summary (Total Codes: 4, Included: 1)

Code	Name
F	Free-form

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PID02	750	**Product/Process Characteristic Code**	O	ID	2/3	Used

Description: Code identifying the general class of a product or process characteristic

Note 1: *Used for country of origin.*

Code List Summary (Total Codes: 275, Included: 1)

Code	Name
MSG	Market Segment

Description: *General market classification for which a product is intended*

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PID05	352	**Description**	X	AN	1/80	Used

Ref	Id	Element Name	Req	Type	Min/Max	Usage

Description: A free-form description to clarify the related data elements and their content

Syntax Rules:

1. C0403 - If PID04 is present, then PID03 is required.
2. C0703 - If PID07 is present, then PID03 is required.
3. C0804 - If PID08 is present, then PID04 is required.
4. C0905 - If PID09 is present, then PID05 is required.
5. R0405 - At least one of PID04 or PID05 is required.

Semantics:

1. Use PID03 to indicate the organization that publishes the code list being referred to.
2. PID04 should be used for industry-specific product description codes.
3. PID08 describes the physical characteristics of the product identified in PID04. A "Y" indicates that the specified attribute applies to this item; an "N" indicates it does not apply. Any other value is indeterminate.
4. PID09 is used to identify the language being used in PID05.

REF Reference Information

<table>
<tr><td>Pos: 1500</td><td>Max: >1</td></tr>
<tr><td colspan="2">Detail - Optional</td></tr>
<tr><td>Loop: HL</td><td>Elements: 2</td></tr>
</table>

User Option (Usage): Used

Purpose: To specify identifying information

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
REF01	128	**Reference Identification Qualifier**	M	ID	2/3	Must use

Description: Code qualifying the Reference Identification

Code List Summary (Total Codes: 1873, Included: 2)

Code	Name
BV	Purchase Order Line Item Identifier (Buyer)
LI	Line Item Identifier (Seller's)

Ref	Id	Element Name	Req	Type	Min/Max	Usage
REF02	127	**Reference Identification**	X	AN	1/50	Used

Description: Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier

Syntax Rules:

1. R0203 - At least one of REF02 or REF03 is required.

Loop Batch

Pos: 0100   **Repeat: 1**
Optional
Loop: HL   **Elements: N/A**

User Option (Usage): Used
Purpose: Batch hierarchy level

Loop Summary:

Pos	Id	Segment Name	Req	Max Use	Repeat	Usage
0100	HL	Hierarchical Level	M	1		Must use
0200	LIN	Item Identification	O	1		Must use
0300	SN1	Item Detail (Shipment)	O	1		Must use
0700	PID	Product/Item Description	O	200		Used
1900	MAN	Marks and Numbers Information	O	>1		Used
2000	DTM	Date/Time Reference	O	10		Used

HL   Hierarchical Level

Pos: 0100	Max: 1
Detail - Mandatory	
Loop: HL	**Elements: 3**

User Option (Usage): Must use

Purpose: To identify dependencies among and the content of hierarchically related groups of data segments

Note 1:

Lot / Batch HL

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
HL01	628	**Hierarchical ID Number**	M	AN	1/12	Must use

Description: A unique number assigned by the sender to identify a particular data segment in a hierarchical structure

Ref	Id	Element Name	Req	Type	Min/Max	Usage
HL02	734	**Hierarchical Parent ID Number**	O	AN	1/12	Used

Description: Identification number of the next higher hierarchical data segment that the data segment being described is subordinate to

Ref	Id	Element Name	Req	Type	Min/Max	Usage
HL03	735	**Hierarchical Level Code**	M	ID	1/2	Must use

Description: Code defining the characteristic of a level in a hierarchical structure

Code List Summary (Total Codes: 251, Included: 1)

Code	Name
BT	Batch

Note 1:

Lot or batch.

Comments:

1. The HL segment is used to identify levels of detail information using a hierarchical structure, such as relating line-item data to shipment data, and packaging data to line-item data.

2. The HL segment defines a top-down/left-right ordered structure.

3. HL01 shall contain a unique alphanumeric number for each occurrence of the HL segment in the transaction set. For example, HL01 could be used to indicate the number of occurrences of the HL segment, in which case the value of HL01 would be "1" for the initial HL segment and would be incremented by one in each subsequent HL segment within the transaction.

4. HL02 identifies the hierarchical ID number of the HL segment to which the current HL segment is subordinate.

5. HL03 indicates the context of the series of segments following the current HL segment up to the next occurrence of an HL segment in the transaction. For example, HL03 is used to indicate that subsequent segments in the HL loop form a logical grouping of data referring to shipment, order, or item-level information.

6. HL04 indicates whether or not there are subordinate (or child) HL segments related to the current HL segment.

LIN   Item Identification

Pos: 0200	**Max: 1**
Detail - Optional	
Loop: HL	**Elements: 10**

User Option (Usage): Must use

Purpose: To specify basic item identification data

Note 1:

To identify the country of origin for a product in a code format, the ISO Country Code is used in the LIN segment, using data elements 235 / 234 pair. GS1 US uses the ISO 3166-1 alpha-2 codes. To identify more than one country, the format is country code, followed by a space, then the next country code, etc.

Example: Product of USA and Canada with a GTIN of 061414000010,
LIN*01*UK*00061414000010*CH*US CA~

To identify a country and its subdivision (state/province), use the ISO 3166-1 and 3166-2 codes. The two values are separated by a hyphen.
Example: Product of USA, from Florida, with a GTIN of 061414000031,
LIN*01*UK*0006141400031*CH*US-FL~.

Example: Product of USA, from California, and Chile, with a GTIN of 061414000031,
LIN*01*UK*0006141400031*CH*US-CA CL~.

Note 2:

For the specified product, data element 235 /234 pair with Country Code (CH) may be used at either the Pack or Batch level, but not both.

Note 3:

Code denotes product growing location.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
LIN02	235	**Product/Service ID Qualifier**	M	ID	2/2	Must use

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 531, Included: 2)

Code	Name
CH	Country of Origin Code

Note 1:

The Country of Origin for this lot/batch of product.
This code is used at the Batch (Lot) HL if it has not been used at the Pack level.

Code	Name
LT	Lot Number

Note 1:

Code is used for Lot or Batch number.

Ref	Id	Element Name	Req	Type	Min/Max	Usage
LIN03	234	**Product/Service ID**	M	AN	1/80	Must use

Description: Identifying number for a product or service

Ref	Id	Element Name	Req	Type	Min/Max	Usage
LIN04	235	**Product/Service ID Qualifier**	X	ID	2/2	Used

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 531, Included: 4)

		Code	Name
		CH	Country of Origin Code

> **Note 1:**
> *The Country of Origin for this lot/batch of product.*
> *This code is used at the Batch (Lot) HL if it has not been used at the Pack level.*

		DV	Location Code

> **Note 1:**
> *Code denotes product growing location.*

		HA	Country Subdivision Code

Description: *ISO 3166-2 code value for state or province*

		HB	Country of Origin with Country Subdivision Code

Description: *ISO 3166-1 country code value and ISO 3166-2 state or province code value*

LIN05	234	**Product/Service ID**		X	AN	1/80	Used

Description: Identifying number for a product or service

LIN06	235	**Product/Service ID Qualifier**		X	ID	2/2	Used

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 531, Included: 3)

		Code	Name
		DV	Location Code

> **Note 1:**
> *Code denotes product growing location.*

		HA	Country Subdivision Code

Description: *ISO 3166-2 code value for state or province*

		HB	Country of Origin with Country Subdivision Code

Description: *ISO 3166-1 country code value and ISO 3166-2 state or province code value*

LIN07	234	**Product/Service ID**		X	AN	1/80	Used

Description: Identifying number for a product or service

LIN08	235	**Product/Service ID Qualifier**		X	ID	2/2	Used

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 531, Included: 3)

		Code	Name
		DV	Location Code

> **Note 1:**
> *Code denotes product growing location.*

		HA	Country Subdivision Code

Description: *ISO 3166-2 code value for state or province*

		HB	Country of Origin with Country Subdivision Code

Description: *ISO 3166-1 country code value and ISO 3166-2 state or province code value*

LIN09	234	**Product/Service ID**		X	AN	1/80	Used

Ref	Id	Element Name	Req	Type	Min/Max	Usage

Description: Identifying number for a product or service

| LIN10 | 235 | **Product/Service ID Qualifier** | X | ID | 2/2 | Used |

Description: Code identifying the type/source of the descriptive number used in Product/Service ID (234)

Code List Summary (Total Codes: 531, Included: 3)

Code	Name
DV	Location Code

> **Note 1:**
> *Code denotes product growing location.*

| HA | Country Subdivision Code |

Description: *ISO 3166-2 code value for state or province*

| HB | Country of Origin with Country Subdivision Code |

Description: *ISO 3166-1 country code value and ISO 3166-2 state or province code value*

| LIN11 | 234 | **Product/Service ID** | X | AN | 1/80 | Used |

Description: Identifying number for a product or service

Syntax Rules:

1. P0405 - If either LIN04 or LIN05 is present, then the other is required.
2. P0607 - If either LIN06 or LIN07 is present, then the other is required.
3. P0809 - If either LIN08 or LIN09 is present, then the other is required.
4. P1011 - If either LIN10 or LIN11 is present, then the other is required.
5. P1213 - If either LIN12 or LIN13 is present, then the other is required.
6. P1415 - If either LIN14 or LIN15 is present, then the other is required.
7. P1617 - If either LIN16 or LIN17 is present, then the other is required.
8. P1819 - If either LIN18 or LIN19 is present, then the other is required.
9. P2021 - If either LIN20 or LIN21 is present, then the other is required.
10. P2223 - If either LIN22 or LIN23 is present, then the other is required.
11. P2425 - If either LIN24 or LIN25 is present, then the other is required.
12. P2627 - If either LIN26 or LIN27 is present, then the other is required.
13. P2829 - If either LIN28 or LIN29 is present, then the other is required.
14. P3031 - If either LIN30 or LIN31 is present, then the other is required.

Semantics:

1. LIN01 is the line item identification

Comments:

1. See the Data Dictionary for a complete list of IDs.
2. LIN02 through LIN31 provide for fifteen different product/service IDs for each item. For example: Case, Color, Drawing No., ISBN No., Model No., or SKU.

SN1   Item Detail (Shipment)

Pos: 0300	Max: 1
Detail - Optional	
Loop: HL	**Elements: 2**

User Option (Usage): Must use

Purpose: To specify line-item detail relative to shipment

Note 1:

Quantity of cases in the lot.

Note 2:

The sum of the individual Lot HL SN1 quantities should total to the Pack HL SN1.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SN102	382	**Number of Units Shipped**	M	R	1/10	Must use

    Description: Numeric value of units shipped in manufacturer's shipping units for a line item or transaction set

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SN103	355	**Unit or Basis for Measurement Code**	M	ID	2/2	Must use

    Description: Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken

    Code List Summary (Total Codes: 914, Included: 1)

Code	Name
CA	Case

    Note 1:

    Code CA is used for all Pack containers.

Syntax Rules:

1. P0506 - If either SN105 or SN106 is present, then the other is required.

Semantics:

1. SN101 is the ship notice line-item identification.
2. SN105 is quantity ordered.

Comments:

1. SN103 defines the unit of measurement for both SN102 and SN104.

PID Product/Item Description

<table>
<tr><td>Pos: 0700</td><td>Max: 200</td></tr>
<tr><td colspan="2">Detail - Optional</td></tr>
<tr><td>Loop: HL</td><td>Elements: 3</td></tr>
</table>

User Option (Usage): Used

Purpose: To describe a product or process in coded or free-form format

Note 1:

To provide descriptive text information about a product. Data elements used are:

PID01 - F
PID05 - Text

Example: PID*F****TOMATOES RED TOV/CLUSTER - 11 LB~

Note 2:

To send a product's country of origin in text format. Data elements used are PID01, PID02 and PID05.
PID01 - F
PID02 - MSG
PID05 - 'PRODUCT OF' statement.

Examples follow for a product of one country, a product of more than one country (separate countries by the word AND), and a product from 2 countries, one with its subdivision indicated (a hyphen separates the country from its subdivision).

Example: A product of USA would be shown as:
PID*F*MSG***PRODUCT OF USA~   (The * and ~ are EDI delimiter values.)

Example: A product of USA and Canada would be shown as:
PID*F*MSG***PRODUCT OF USA AND CANADA~.

Example: A product of California and Chile would be shown as:
PID*F*MSG***PRODUCT OF USA-CALIFORNIA AND CHILE~

Note 3:

The PID segment at either the Pack or Batch level would be used for the specified product, but not both.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PID01	349	**Item Description Type**	M	ID	1/1	Must use

Description: Code indicating the format of a description

Code List Summary (Total Codes: 4, Included: 1)

Code	Name
F	Free-form

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PID02	750	**Product/Process Characteristic Code**	O	ID	2/3	Used

Description: Code identifying the general class of a product or process characteristic

Code List Summary (Total Codes: 275, Included: 1)

Code	Name
MSG	Market Segment

Description: *General market classification for which a product is intended*

Ref	Id	Element Name	Req	Type	Min/Max	Usage
PID05	352	**Description**	X	AN	1/80	Used

Description: A free-form description to clarify the related data elements and their content

Ref	**Id**	**Element Name**	**Req**	**Type**	**Min/Max**	**Usage**

Syntax Rules:

1. C0403 - If PID04 is present, then PID03 is required.
2. C0703 - If PID07 is present, then PID03 is required.
3. C0804 - If PID08 is present, then PID04 is required.
4. C0905 - If PID09 is present, then PID05 is required.
5. R0405 - At least one of PID04 or PID05 is required.

Semantics:

1. Use PID03 to indicate the organization that publishes the code list being referred to.
2. PID04 should be used for industry-specific product description codes.
3. PID08 describes the physical characteristics of the product identified in PID04. A "Y" indicates that the specified attribute applies to this item; an "N" indicates it does not apply. Any other value is indeterminate.
4. PID09 is used to identify the language being used in PID05.

Comments:

1. If PID01 equals "F", then PID05 is used. If PID01 equals "S", then PID04 is used. If PID01 equals "X", then both PID04 and PID05 are used.
2. Use PID06 when necessary to refer to the product surface or layer being described in the segment.
3. PID07 specifies the individual code list of the agency specified in PID03.

MAN Marks and Numbers Information

Pos: 1900   **Max: >1**
Detail - Optional
Loop: HL   **Elements: 2**

User Option (Usage): Used

Purpose: To indicate identifying marks and numbers for shipping containers

Note 1:
Case marking

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
MAN01	88	**Marks and Numbers Qualifier**	M	ID	1/2	Must use

    Description: Code specifying the application or source of Marks and Numbers (87)

    Code List Summary (Total Codes: 31, Included: 1)

Code	Name
AI	UCC/EAN-128 Application Identifier (AI) and Data

Ref	Id	Element Name	Req	Type	Min/Max	Usage
MAN02	87	**Marks and Numbers**	M	AN	1/48	Must use

    Description: Marks and numbers used to identify a shipment or parts of a shipment

Syntax Rules:

1. C0605 - If MAN06 is present, then MAN05 is required.
2. P0405 - If either MAN04 or MAN05 is present, then the other is required.

Semantics:

1. MAN01/MAN02 and MAN04/MAN05 may be used to identify two different marks and numbers assigned to the same physical container.
2. When both MAN02 and MAN03 are used, MAN02 is the starting number of a sequential range and MAN03 is the ending number of that range.
3. When both MAN05 and MAN06 are used, MAN05 is the starting number of a sequential range, and MAN06 is the ending number of that range.

Comments:

1. When MAN01 contains code "UC" (U.P.C. Shipping Container Code) and MAN05/MAN06 contain a range of ID numbers, MAN03 is not used. The reason for this is that the U.P.C. Shipping Container code is the same on every carton that is represented in the range in MAN05/MAN06.
2. MAN03 and/or MAN06 are only used when sending a range(s) of ID numbers.
3. When both MAN02/MAN03 and MAN05/MAN06 are used to send ranges of ID numbers, the integrity of the two ID numbers must be maintained.

DTM Date/Time Reference

<table>
<tr><td>Pos: 2000</td><td>Max: 10</td></tr>
<tr><td colspan="2">Detail - Optional</td></tr>
<tr><td>Loop: HL</td><td>Elements: 3</td></tr>
</table>

User Option (Usage): Used

Purpose: To specify pertinent dates and times

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
DTM01	374	**Date/Time Qualifier**	M	ID	3/3	Must use

Description: Code specifying type of date or time, or both date and time

Code List Summary (Total Codes: 1317, Included: 2)

Code	Name
510	Date Packed

> **Note 1:**
>
> *Pack or harvest date.*

Code	Name
511	Shelf Life Expiration

Ref	Id	Element Name	Req	Type	Min/Max	Usage
DTM02	373	**Date**	X	DT	8/8	Used

Description: Date expressed as CCYYMMDD where CC represents the first two digits of the calendar year

Ref	Id	Element Name	Req	Type	Min/Max	Usage
DTM03	337	**Time**	X	TM	4/8	Used

Description: Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)

Syntax Rules:

1. C0403 - If DTM04 is present, then DTM03 is required.
2. P0506 - If either DTM05 or DTM06 is present, then the other is required.
3. R020305 - At least one of DTM02, DTM03 or DTM05 is required.

CTT Transaction Totals

Pos: 0100   Max: 1
Summary - Optional
Loop: N/A   Elements: 1

User Option (Usage): Used
Purpose: To transmit a hash total for a specific element in the transaction set

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
CTT01	354	**Number of Line Items**	M	N0	1/6	Must use

Description: Total number of line items in the transaction set
Note 1: *CTT01 contains the number of HL segments present in the transaction set.*

Syntax Rules:

1. P0304 - If either CTT03 or CTT04 is present, then the other is required.
2. P0506 - If either CTT05 or CTT06 is present, then the other is required.

Comments:

1. This segment is intended to provide hash totals to validate transaction completeness and correctness.

SE Transaction Set Trailer

Pos: 0200   Max: 1
Summary - Mandatory
Loop: N/A   Elements: 2

User Option (Usage): Must use

Purpose: To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments)

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SE01	96	**Number of Included Segments**	M	N0	1/10	Must use

Description: Total number of segments included in a transaction set including ST and SE segments

Ref	Id	Element Name	Req	Type	Min/Max	Usage
SE02	329	**Transaction Set Control Number**	M	AN	4/9	Must use

Description: Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set

Note 1: *The transaction set control number (SE02) is the same as that used in the corresponding header (ST02).*

Comments:

1. SE is the last segment of each transaction set.