



Reformulated Gasoline and Anti-Dumping Program

Electronic Data Interchange Technical Guidance

Revision 2.0

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Transportation and Regional Programs Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

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Summary of Major Changes to Version 2.0

- < Correction was made to permit the designation of “company confidential” information through the Electronic filing format. See section 2.4, “Security,” for general information.
- < Correction was made to indicate the recent change from the Field Operations and Support Division (FOSD) to the Fuels & Energy Division (FED). This change was a result of an OMS-wide reorganization in September, 1995.
- < References to renewable oxygenates and “ROX” have been removed, consistent with the recent decision of the U.S. Court of Appeals (D.C. Circuit) against the Agency on the renewable oxygenate rule.
- < The REFGAS code list (see 8.3.1, “Controlled Code Lists 1-9)) was updated to include the entry “AS” for “alternative simple model” gasoline.
- < Additional changes and corrections were made as necessary.

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SECTION 1 - INTRODUCTION

1.1 Purpose of Guideline

This technical guideline is provided by the United States Environmental Protection Agency (herein referred to as EPA, or the Agency). It presents an overview of the EPA and Electronic Data Interchange (EDI) for the Reformulated Gasoline and Anti-Dumping Programs (REFGAS) of EPA's Office of Mobile Sources, Field Operations and Support Division (FOSD). EDI refers to the transmission, in American National Standards Institute, Accredited Standards Committee X12 (ANSI ASC X12) standard syntax, of unambiguous information of business or strategic significance between computers of independent organizations. Other acceptable identifications of this standard are ASC X12, ANSI X12, or X12.

1.2 Scope and Applicability

This Technical Guideline is intended to provide prospective EDI reporting parties with the information necessary to understand the technical requirements of the EPA Reformulated Gasoline and Anti-Dumping Programs, and provides practical guidance for reporting reformulated gasoline data in an electronic environment.

1.3 RFG EDI Objective

The objective of the Reformulated Gasoline (RFG) EDI Program is to facilitate the required data reporting, eliminate paper, speed processing and simplify data review. EPA has developed an electronic approach that will benefit both the reporting party and the Agency. This approach includes:

- C Implementing EDI using ANSI ASC X12 standards;
- C Using existing X12 transaction sets: the 863 Report of Test Results, the 867 Product Transfer and Resale, and the 997 Functional Acknowledgement;
- C The development of EPA-specific convention documents; and
- C Seeking voluntary collaboration with the refiners, blenders and importers of regulated gasoline.

1.4 Introduction to EDI

EDI is the transmission in ANSI ASC X12 syntax of unambiguous information of business or strategic significance between computers of independent organizations. The definition can be expanded further to include the electronic transmission of business documents from the application program of one computer to the application program of another computer within the framework of a standard format. The key elements in the definition are computer-to-computer and standard format. EDI reduces costs and errors associated with a paper document environment. EDI replaces the mail delivery and reentry of documents with the electronic mailbox and the delivery of business data directly to a computer database system. An EDI message is a single data stream, including the outer envelope, that is transmitted from one party to another.

1.5 How to Use the Technical Guideline

The technical guideline follows the ASC X12 recommended format specified in the "EDI Implementation Reference Manual Guidelines", approved February 1991, ASC X12 D/90-856. (DISA Catalog No. 0179) Sections 1-10 contain information necessary for RFG reporting parties to fulfill the requirements for implementing a RFG EDI program. These sections include the EDI business background and history, EPA policy and logistic issues, and a checklist on how to get started with EDI. Appendices contain the usage conventions of the specific X12 transaction sets that satisfy the information requirements of the RFG EDI Program.

SECTION 2 - BUSINESS ISSUES

2.1 Implementation Considerations

REFGAS EDI currently use the following ASC X12 transactions sets:

| | |
|-----|--|
| 863 | Report of Test Results. Version 3 Release 5. |
| 867 | Product Transfer and Resale |
| 997 | Functional Acknowledgment |

The 863, and 867 transaction sets are mapped in detail in the Appendices. An example of a Functional Acknowledgement 997 is located in section 10.3.1.

2.2 Timing of Transactions

The EDI data must be received by EPA in accordance with the reporting dates specified in the RFG regulation. Section 9.4, Forms and Reports, contains a chart of the Reports and the Regulatory Deadlines as of this publication. The deadlines are also repeated in the introduction section of each report appendix.

Reporting parties can transmit data at any time prior to the appropriate reporting deadline. Messages are retrieved daily. A Functional Acknowledgement (transaction set 997) is generated to confirm receipt and successful translation of a message. The date and time stamp of the submitted information is considered to be the time at which the corresponding 997 is generated. The 997 does not acknowledge the validity of the data, only its receipt. The reporting party must ensure that a RFG transmission is sent early enough to assure that the message can be successfully translated before the scheduled deadline.

If a transaction set 997 is not received, it is the responsibility of the party who sent the initial message to take action to assure that their transaction was received by the other party in translatable form. The transmission of a transaction set 997 does not require a 997 in return.

Each message should be retained in both translated and transmitted format by the parties to ensure that a history of the data transmitted and received is maintained.

2.3 Modes of Operation

The two modes of operation are *Production* and *Test*. Production is used when both parties agree that their systems are communicating and exchanging transaction sets properly. The test mode is used when implementing a new transaction, when making a modification to

implemented transactions, or when upgrading to a new version / release. The parties should be aware of when the test mode will be used in order to provide assistance to each other. Identification of the mode of operation is contained in the ISA (Interchange Control Header) Position ISA15, Data Element I14. A "P" identifies production data and "T" identifies test data.

EDI systems must have the provision to handle both production and test modes of operation.

2.4 Security

The risks inherent in the EDI process are based on the lack of paper documentation to backup the transactions. EDI involves the transmission of electronic messages, or records, that may never be converted to hard copy. Therefore, the electronic records must be able to stand alone as submission data. These records are subject to the same security requirements as are all types of EPA data. The EDI process must include all steps necessary to ensure that the records are authentic, are properly authorized, and are retained in a manner that will ensure the integrity of the records. Audit trails must be maintained for accountability.

RFG EDI uses the dual Personal Identification Number (PIN) concept to ensure the submitted reports are properly authorized. The dual PIN concept utilizes a PIN for the company and a PIN for the person certifying the accuracy of the information in the report. PIN administration is the responsibility of the FOSD office.

It is the responsibility of the reporting party to ensure the security of the PINS. If a reporting party suspects a breach in this security, the FOSD office must be contacted immediately. Reporting parties are also responsible for the security of VAN log-on access numbers.

A Security Level Code, DE (data element) 786 has been added to the beginning segments of the 863 and 867 transaction sets to provide identification; the transaction set contains *Confidential Business Information (CBI)*. **The appropriate value for company confidential information is "02"**.

2.5 Backup and Recovery Procedures

Backup and recovery procedures are necessary to provide:

- C Retransmission capabilities;
- C Translator re-run capabilities;
- C Minimum 24- to 48-hour immediate access backup; and
- C Archive and recovery capabilities for individual EDI messages.

The backup and recovery procedures must be thoroughly documented to allow anyone with the proper authority to access the system to retransmit data.

It is the responsibility of the reporting party to maintain records and archives of EDI messages sent and received. Reporting parties must have the capability to retransmit an EDI message.

The Functional Acknowledgement (997) transaction set can be used to provide a level of automation in the backup and recovery area. If the EDI system expects to receive a Functional Acknowledgment for every transaction it sends, the EDI message should be available for retransmissions until a Functional Acknowledgement corresponding to a specific EDI message is received. Once the Functional Acknowledgment is received, the original EDI message can be archived regardless of the normal archive timing.

FOSD requires the use of the Functional Acknowledgment. The Functional Acknowledgment is used to confirm receipt of the reporting party's message and indicate acceptance or rejection of the transaction set by the translator. A Functional Acknowledgment is not required for a transmission of Functional Acknowledgments.

It is suggested that reporting parties develop a plan to deal with extreme problems, such as a total loss of a Data Center, computer system, or a phone company switch station.

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SECTION 3 - ENVIRONMENTS

3.1 System Architecture

RFG information submitted via EDI by refiners, blenders, importers, and independent laboratories must be translated into the ASC X12 transaction sets as detailed in the appendices of this technical guideline. The transaction sets are placed into an EDI envelope for communication to EPA.

Communication to EPA is through a third party Value Added Network (VAN). EPA has selected **the AT&T** EDI VAN. Reporting parties may choose another VAN, in which case a VAN-to- **AT&T** interconnect is required.

EPA accesses their **AT&T** mailbox daily, with the exception of weekends and federal holidays.

The following details the data flow for RFG EDI data from EPA's perspective:

1. EPA polls the **AT&T** mailbox for new mail.
2. If new mail exists, EPA downloads the new mail to a secure storage system. The file is marked with date and time of receipt.
3. A copy of the hard file is made to a WORM (write-once, read-many) optical disk prior to additional processing.
4. EPA uses a translation software to read the ASC X12 formatted messages.
5. As part of the translation, the translator conducts format checks and generates a functional acknowledgement with a pass or fail indicator. For failures, the authorized representative of the reporting party will be contacted.
6. The functional acknowledgement is addressed to the originator and transmitted to through the **AT&T** VAN on the next connection. If the message passed the format tests, the process proceeds.
7. The translator verifies the company registration number, company PIN and individual PIN.
8. The data is translated to an internal format and written to a flat ASCII file or to an Oracle input file.

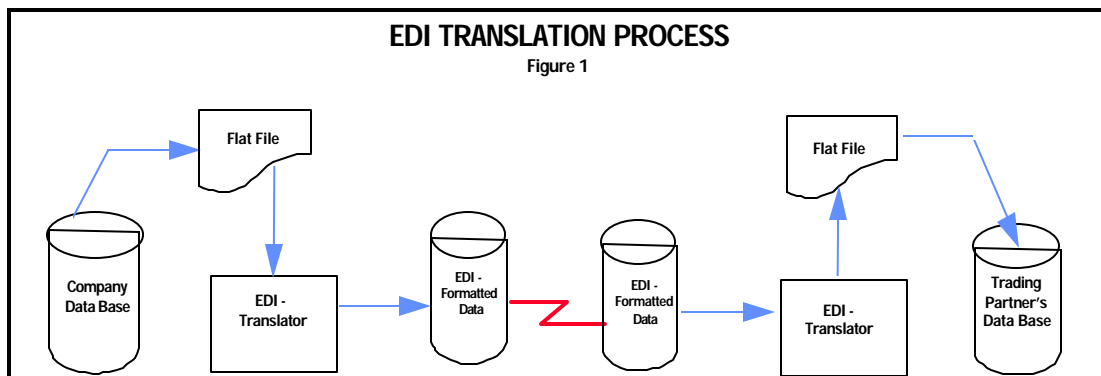
9. An application front-end processor picks up the file and sorts the transaction sets by report type.

The following describes the initial steps performed by the application system for Batch Reports:

1. If the report is a batch report, processing proceeds.
2. Determine whether the report is an original or a re-submission.
3. Verify the reporter's registration ID against the registration database.
4. Verify that the reporter is valid for the batch number. That is, that the reporter either owns/operates the facility or is the independent lab for that facility.
5. Verify the company and personal PINs against the PIN database.
6. Check for existence of the batch ID (the same reporter and the same batch ID #) in the database. This indicates a duplicate submission.
7. If the transaction is indicated as an original and it is confirmed that it is not a duplicate, proceed to step #10.
8. If the transaction is indicated as an original and a duplicate situation exists, reject the transaction and flag for resolution.
9. If the transaction is a re-submission and not a duplicate, reject the transaction and flag for clarification.
10. Check to be sure that all values are formatted correctly and that numeric values are reported to the proper precision.
11. Perform range checks on values in batch report (see regulations for valid ranges).
12. If the report passes all checks, proceed. If it fails, reject and flag for resolution.
13. If the transaction is a resubmission, write old record to archive batch report table and write new information to batch report table.
14. If original, write record to batch report table.

3.2 Translation

Translation is the automated process of converting application data extracted from an application database into a standard EDI format. It also refers to the conversion of EDI-formatted data received from Reporting Parties into a file format which internal systems will recognize. Most core translation programs use "table driven" subroutines to generalize processing regardless of the application or data file structures. Translation specifications are input to the program which detail the data being processed and how it "maps" to the associated ASC X12 transaction set. The ASC X12 standard provides a specific structure for the data. Translation is independent of any application program design or program functions.



Translator software should have the following minimum capabilities:

- C The software should contain communications capabilities to send and receive EDI-formatted data using the ASC X12 standards.
- C The software should provide an application system interface program that extracts data from an application data base and creates fixed-length files in the vendor's format for subsequent translation to an EDI format. The reverse is also required.
- C The software should provide a reporting facility to generate error reports of outbound or inbound messages and inbound and outbound transaction set reporting.
- C The software should provide the ability to send or receive Functional Acknowledgements, to identify the successful receipt of information by Reporting Parties, and highlight unacknowledged transaction sets that have been sent.
- C The software should provide facilities to edit inbound and outbound data to determine whether they are in compliance with EDI standards.
- C The software should provide a facility that monitors the use of internal business document identification numbers, such as batch numbers, to avoid duplication.

- C The software should maintain EDI data elements and segments in a table structure.
- C The software vendor should provide technical documentation, user documentation, maintenance support, help desks, tutorial packages and training support to assist the reporting party in the use of the translation software.
- C The software should provide the facility to maintain a profile of each party that identifies the name, Duns Number, organizational identifier, phone numbers, and segments in a required transaction set.
- C The software should have automated data-mapping procedures embedded in the EDI translation software that creates fixed-length files according to the user's requirements for subsequent translation to an EDI format. The reverse process should also be provided.
- C The EDI software package must support the current release of an EDI standard.

SECTION 4 - MAINTENANCE

4.1 Maintaining Guideline

Maintenance of this guideline is the responsibility of the United States Environmental Protection Agency, Office of Mobile Sources (OMS), **Fuels & Energy Division (FED)**. **FED is the successor division to the Field Operations & Support Division (FOSD), which was eliminated in a recent EPA reorganization. For purposes of this guidance and for the Terms & Conditions Memorandum, the references to “FOSD” are synonymous with “FED.”** All reporting parties will be notified of changes affecting existing conventions.

For additional information, contact:

Office of Mobile Sources (OMS)
Fuels & Energy Division (FED)
U. S. Environmental Protection Agency
Mail Code 6406J
Washington, DC 20460
(202) 233-9010 FAX: (202)233-9556
Internet address: REFGAS@EPAMAIL.EPA.GOV

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SECTION 5 - COMMUNICATIONS

REFGAS uses the AT&T VAN which uses the Set-up Form on the following page to establish new Reporting Party profiles. The indicated information must be provided by the Reporting Party to EPA for all new accounts.

REFGAS EDI TECHNICAL GUIDELINE

Please complete the following information on your Trading Partner. FAX to U.S. EPA, Attention: REFGAS at (202) 233-9557 or (202) 233-9556.

YOUR COMPANY INFORMATION

DATE _____

Company Name: _____
Up to 20 bytes long.

Your Name/ Company Contact _____
Your/Company Contact's Phone Number _____
EDI ID _____
Any valid ASC.x12 i.d. 1 to 15 bytes long.
EDI ID QUALIFIER _____
Any valid ASC.x12 i.d. qualifier. 2 bytes long.
VAN _____
Any length.

TRADING PARTNER SET-UP FORM

Network interconnects are a viable means of exchanging data when each Reporting Party wishes to use their preferred VAN. It is the responsibility of each party to research whether their preferred VAN has the full complement of desired interconnect capabilities with the AT&T VAN.

The following information is normally required to establish an interconnect.

| / INTERCONNECTION CHECKLIST | |
|------------------------------------|--|
| Company Checklist | EPA REFGAS (Your Trading Partner) |
| Network Company Uses | _____ |
| Company Sender/ Receiver ID | _____ |
| Company ID Qualifier | _____ |
| Company Contact Name | _____ |
| Contact Phone Number | (____) _____ |
| Alternate Company Contact Name | _____ |
| Alternate Phone Number | (____) _____ |
| Company | _____ |
| | Address 1 |
| | _____ |
| | Address 2 |
| | _____ |
| | City |
| | _____ |
| | State |
| | ZIP |

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SECTION 6 - MISCELLANEOUS

6.1 Industry Business Models

REFGAS has implemented the following ASC X12 transaction sets. Selection of a transaction set was based on the specific business issue to be solved and the defined purpose of the transaction set. It is the intention of EPA to use national standards where they exist and to avoid developing specific purpose transaction sets.

863 Report of Test Results is used to receive information about the chemical composition of reformulated gasoline produced, blended, or imported into the country. Reporting is by individual batches and by annual submissions of summary information.

867 Product Transfer and Resale is used to report information about the transfer of oxygen and benzene credits between refiners, and to report areas of the country into which certain products are sold.

997 Functional Acknowledgment is used to communicate to the originating party that a message was received, and to indicate the results of the syntactical analyses of the electronically encoded documents. The 997 is returned for all successfully transmitted documents as well as for rejected documents. The 997 does not guarantee the validity of the data submitted in a message; it only acknowledges receipt of the transmission and syntactical correctness of the messages.

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SECTION 7 - GLOSSARY OF TERMS

Actual Total Content

The result of multiplying the volume of gasoline produced by the level of attainment to an applicable standard.

ANSI

American National Standards Institute.

ANSI Standard

A document published by ANSI that has been approved through the consensus process of public announcement and review. ANSI Standards are developed by committees accredited by ANSI (see ASC) and must be revisited by the developing committee within five years for updating.

API

American Petroleum Institute.

API Gravity

American Petroleum Institute Specific Gravity. Weight of a volume of fuel at 60 Degrees F divided by a weight of an equal volume of water at 60 Degrees F. There is no unit of measure; this is a ratio. The result will be <1, and probably in the range of .6 to .85.

Application Acknowledgment

A transaction set that returns a response to a Trading Partner, indicating that a specific type of transaction has been received and processed in an application program. For example, the Purchase Order Acknowledgment transaction set 855 is used to acknowledge the receipt of a Purchase Order, transaction set 850. The Application Acknowledgement may provide additional information, such as whether the receiver can fulfill the order on time.

Area, Transaction Set

Identifies a defined area within a transaction set containing segments. The areas may be referred to as Table 1, Table 2, Table 3 or Header, Detail and Summary.

ASC X12

Accredited Standards Committee X12 of the ANSI. The committee's purpose is to develop uniform standards for electronic interchange of business documents. Membership is open to virtually all organizations and individuals with a material interest in the standards.

Authentication

A mechanism that enables the recipient of electronic data to verify the identity of the sender with certainty. This is done through the use of an electronic "key" or algorithm, which is shared by the trading partners. This is sometimes referred to as an electronic signature.

Batch

A quantity of gasoline.

Batch ID Number

An identifier assigned to a batch of gasoline in the format CCCCFFFFFFYYNNNNNN, where CCCC identifies the Company, FFFFFF the Facility, YY the year and NNNNNN is a sequential number.

Complex Model

A set of equations used to predict a fuel's performance based on parametric inputs. The Complex Model may be used from 1995 through 1997 and must be used after 1997 in the REFGAS program.

Compliance Checking

A checking process that is used to ensure that a message complies with ASC X12 syntax rules.

Compliance Method

A model to determine a gasoline's compliance with the applicable standard.

Compliance Total

Compliance Total Content minus the Actual Total Content. A value greater (>) than or equal (=) to zero (0) indicates compliance. For Oxygen and Benzene Averaging, a positive value indicates credits have been generated; if less than (<) zero there is a credit deficit.

Compliance Total Content

The result of multiplying a volume of gasoline by the applicable standard.

Component Data Element

A data element used as a sub-element in a Composite Data Structure.

Component Data Element Separator

Sometimes referred to as a sub-element separator, this is a unique character that precedes each Component Data Element in a Composite Data Structure. It is specified by the sender in the Interchange Control Header (ISA). The separator has a range of influence from this header to the next Interchange Control Trailer (IEA) segment. *The sub-element must be different from the data element separator and segment terminator* and once specified in the ISA segment must not appear in a data element value with the exception of its possible appearance in Data Element #785, Binary Data. Within diagrams, the colon (:) is used to represent the separator character.

Composite Data Structure

A structure that consists of two or more logically related component data elements in a defined sequence and delimited by a Component Data Element Separator.

Condition Designator

An indicator assigned to each data element in a segment that defines how it is to be used in the segment. Data elements may be designated as Mandatory (M), Optional (O) or Relational (X). Refer to the ASC X12 Standards, X Segment Directory, Introduction.

Control Segment

A control segment has the same structure as a data segment but is used for transferring control information for grouping data segments. Control Segments are Loop Control Segments (L/LE), Transaction Set Control Segments (ST/SE), and Functional Group Control Segments (GS/GE), defined in X12.6 and Interchange Control Segments (ISA/IEA,TA1) defined in X12.5.

Control Validation

Confirmation that information within the control segments is correct.

Conventions

Common practices and/or interpretations of the use of the ASC X12 standards, complying with the standards, as agreed upon by two or more trading partners. Conventions define what is included in a specific technical version of an ASC X12 standard.

Credits

A unit used to identify a surplus or deficit in compliance with the applicable standard.

Data Element

The smallest unit of information in the X12 standards. Data elements are defined in the Data Element Dictionary, X12.3. Each data element is identified by a reference number.

Data Element Dictionary

Source document for Data Element specifications. It's official name is X12.3 Data Element Dictionary. The dictionary specifies the name, description, and minimum/maximum length for each data element. For ID-type or code type data elements, the dictionary lists all code values and their definitions, or indicates in an appendix where the valid code list can be obtained.

Data Element Length

Number of character positions available to represent the data element value. A data element may be of variable length with range from minimum to maximum, or it may be of fixed length in which the minimum is equal to the maximum.

Data Element Reference Number

Reference number assigned to each data element as a unique identifier. Numbers prefixed with a "C" or an "S" indicate a Composite Data Element. Lack of a prefix indicates a Simple Data Element.

Data Element Separator

A unique character preceding each data element that is used to delimit data elements within a segment. The value of the separator is specified by the sender in the Interchange Control Header (ISA). The separator has a range of influence from this header to the next Interchange Control Trailer (IEA) segment. *The data element separator must be different from the component or sub-element data separator, and segment terminator.* Once specified in the ISA segment, the Data Element Separator may not appear in a data element value with the exception of Data Element #785, Binary Data. Within diagrams, the asterisk (*) is used to represent the separator character. See "Delimiters".

Data Element Type

An identifier in the data element which describes the format of the data. A data element may contain data that is one of eight types: Numeric (N), Decimal (R), Identifier (ID), String (AN), Date (DT), Time (TM), Binary (B), or Fixed Length String (FS). Refer to X12.3 Data Element Dictionary, Introduction.

Delimiters

Delimiters are bit configurations that are used as data element separators, component or sub-element separators and segment terminators. The design of X12 is based on the concept of variable length fields. Delimiters are necessary to identify the start of data elements and sub-elements and to identify the end of segments. They are specified by the sender in the Interchange Control Header (ISA). They have a range of influence from a header to the next Interchange Control Trailer (IEA) segment. Delimiters are agreed upon by the Trading Partners. The value of the terminator must be different from the value of the data element separator which must be different from the component (sub-element) element separator. Once specified in the ISA segment, delimiter values may not appear in a data element value with the exception of its possible appearance in Data Element #785, Binary Data.

Direct Transmission

The exchange of data from the computer of the sending party directly to the computer of the receiving party.

DISA

Data Interchange Standards Association. A not-for-profit organization which serves as the Secretariat for ASC X12 and the Pan American EDIFACT Board (PAEB). It is accredited by ANSI to administer the U.S. Technical Advisory Group on matters pertaining to EDIFACT syntax before the International Organization for Standardization's (ISO's) Technical Committee 154.

Draft Standard for Trial Use (DSTU)

A document approved by the full ASC X12 committee following membership consensus and subsequent resolution of negative votes and approved for publication by the Procedures Review Board.

DSTU's must be submitted to ANSI periodically for approval as National Standards. See ANSI Standard.

E200

Equals 200 degrees F distillation fraction of the target fuel in terms of volume percent.

EBCDIC

Extended Binary Coded Decimal Interchange Code is a coding scheme used for storage of alphabetic, numeric or special characters that requires no arithmetic processing. Each character has a unique bit pattern assigned to represent it and takes one byte of storage.

EDI

The abbreviation for Electronic Data Interchange, which is commonly defined as "the computer-to-computer exchange of business information in a standard format." An EDI transmission is a highly structured message intended for automated processing by a computer. All references to EDI under U.S. EPA programs refers to the utilization of ASC X12 standards.

EDI Translation

The conversion of application data to and from the X12 standard format.

EDI Translator

Computer software used to perform the conversion of application data to and from the X12 standard format.

Electronic Data Interchange (EDI)

The computer application to computer application exchange of business information in a standard format. An EDI transmission is a highly structured message intended for automated processing by a computer. All references to EDI under U.S. EPA programs refers to the utilization of ASC X12 standards.

Electronic Envelope

Electronic package that contains a set(s) of documents sent from one sender to one receiver. See Interchange Control Segments.

Electronic Mailbox

A repository where an EDI transmission is stored for pickup or delivery. Mailboxes may be within a third-party service provider's system or in an individual trading partner's domain.

Encryption

A process of transforming clear text (data in its original, uncoded form) into ciphertext (encrypted output of a cryptographic algorithm) for security or privacy.

EPA

The Environmental Protection Agency. Also called USEPA for United States Environmental Protection Agency. Established in 1970 by Presidential executive order, it brings together parts of various government agencies involved with the control of pollution. Note that some State environmental authorities may be called EPA also, as in Illinois EPA.

ETBE

Ethyl t-Butyl Ether

ETHANOL

An alcohol component in gasoline.

Exhaust Benzene Emissions

Benzene emissions from the exhaust system.

FED

Fuels and Energy Division. Successor division to FOSD. As of September 1995, references to “FOSD” in this technical guidance and in the Terms & Conditions Memorandum should be considered synonymous with “FED.”

FOSD

Field Operations and Support Division. **In September 1995, as the result of an EPA reorganization, FOSD was eliminated and the REFGAS functions of FOSD were transferred to its successor division, FED. See “FED,” above.**

FIPS PUB 161

Federal Information Processing Standard, Publication 161.

Functional Acknowledgment

A transaction set (997) transmitted by the receiver of an EDI transmission to the sender, indicating receipt and syntactical acceptability of data transmitted according to the ASC X12 standards. The functional acknowledgment allows the receiving party to report back to the sending party problems encountered by the syntax analyzer as the data is interpreted. It is not intended to serve as an acknowledgment of data validity.

Functional Group

A group of one or more transaction sets enclosed by a Functional Group Header (GS) segment and a Functional Group Trailer (GE) segment. Each instance of a functional group applies to a specific business function defined by the specific application to which it applies.

Functional Group Envelope

The envelope starting with a GS (Functional Group Header) Element and terminated with a GE (Functional Group Trailer) Element.

Gasoline - Conventional

Gasoline that has not been certified under CFR 80.40.

Gasoline - Conventional Blendstock**Gasoline - Reformulated**

Any gasoline whose formulation has been certified under CFR 80.40, which meets each of the standards and requirements prescribed under CFR 80.4.

Hexadecimal

Base 16 notation commonly used to represent binary values.

Technical Guideline

A document prepared by an industry group, association, institute, government body or individual trading partner that defines how the ASC X12 standards are used by that industry.

Industry Conventions

A document prepared by an industry group, association, institute, etc. that defines how the ASC X12 standards are used by that industry.

Interchange

The level in the ASC X12 design hierarchy that includes the entire data stream, from the outer (interchange control) envelope to the data elements. An interchange is bounded by Interchange Control Segments (ISA/IEA). Also known as a Message.

Interchange Control Envelope

The outer envelope that holds multiple functional group envelopes in an ASC X12 interchange, or message.

Interchange Control Segments

Segments that identify the boundaries of the ASC X12 formats in an EDI message. Interchange Control Header (ISA) and Interchange Control Trailer (IEA) segments bound a unique interchange being sent from one sender to one receiver.

Interchange Control Structure

The Interchange Control Header (ISA) and Interchange Control Trailer (IEA) segments form an envelope for one or more functional groups or interchange-related control segments, and perform the following functions: 1) define the data element separators and the data segment terminators, 2) identify the sender and receiver, 3) provide control information for the interchange, and 4) may carry authorization and security information (X12.5).

Level

A term used to identify hierarchical positions in an ASC X12 design. The levels used from highest to lowest are Communications, EDI Interchange (message), Functional Group, Transaction Set, Heading Area, Summary Area and Detail Area. Reference ASC X12 publication DSTU X12.59 Technical of EDI Structures - Semantic Impact.

Loop

A group of segments related only by design of the transaction set. Use of any segment within a loop requires the use of the first or parent segment of the loop.

Mandatory (M)

A data element/segment requirement designator that indicates that the presence of a specified data element is required.

Mapping

The process of identifying the relationship between the data elements in the standard transaction set and the data elements in the application.

Max Use

The maximum number of times a segment can be used at a location in a transaction set.

Message

Entire data stream including the outer envelope. Also known as the EDI interchange.

MTBE

Methyl t-Butyl Ether

Net Compliance Total

The net difference between the Credit Surplus or Deficit and the Credits Transferred or Obtained.

NOx Emissions Performance

Difference in exhaust NOx emissions attributed to a gasoline formulation as compared to the 1990 baseline gasoline.

NPRA

National Petroleum Refiners Association.

Olefins

Hydrocarbons containing double bonds.

OMS

Office of Mobile Sources, U.S. Environmental Protection Agency.

Optional (O)

A data element/segment requirement designator that indicates that the presence of a specified data element/segment is at the option of the sending party. Usage of these fields can be based on the mutual agreement of the interchange parties.

OPRG

Oxygenated Fuels Program Reformulated Gasoline.

Oxygenate

Any substance used lawfully which, when added to gasoline, increases the oxygen content of the gasoline.

PADD

Petroleum Administration for Defense District. A grouping of the continental states, excluding Alaska but including District of Columbia, into five areas designated I, II, III, IV and V. Used to identify the area in which an importing facility is located.

PIDX

Petroleum Industry Data Exchange.

PMAA

Petroleum Marketers Association of America.

Program

Identification as to whether the gasoline was produced for the Winter Oxygenate Fuels Program.

Proprietary Format

A data format specific to a company, industry, or other limited group. Proprietary formats may not comply with the ASC X12 series of standards.

Qualifier

A data element that identifies or defines a related element. Qualifier elements are ID Type Elements. The qualifier is a code taken from a list of approved codes.

RBOB

See GASOLINE - REFORMULATED GASOLINE BLENDSTOCK FOR OXYGENATE BLENDING.

REFGAS

Reformulated Gasoline and Anti-Dumping Program.

Reporting Party

The party required to submit reports to EPA under the RFG and Anti-Dumping Provisions at 80.75 and 80.105. This party is sometimes referred to as "the party". EPA and/or the reporting party are sometimes referred to as "Trading Partners".

RVP

Reid Vapor Pressure. Used to measure the propensity of gasoline to evaporate.

Repeating Segment

A segment that may be used more than once at a given location in a transaction set. See Max Use.

Security Controls

System mechanisms that deny access to unauthorized users and protect data from unauthorized uses.

Segment

Variable length set of logically related data elements in a defined sequence. A segment contains a unique segment identifier (which is not a data element), one or more data elements, each preceded by a data element separator, and a segment terminator. Refer to Segment Directory.

Segment Directory

The document that provides the definitions and specifications of the segments used in the construction of transaction sets developed by ASC X12. The directory lists each segment by name, purpose, and identifier; details the standard data elements in the specified order; and specifies the requirement designator for each data element.

Segment Identifier

A unique identifier for a segment composed of a combination of two or three letters or digits. The segment identifier occupies the first character positions of the segment. The segment identifier is not a data element.

Segment Terminator

A unique character appearing at the end of a segment to indicate the termination of the segment. It is specified by the sender in the Interchange Control Header (ISA). The segment terminator has a range of influence from this header to the next Interchange Control Trailer (IEA) segment. The segment terminator must be different from the data element and sub-element separators. Once specified in an ISA segment, a segment terminator character must not appear in a data element value (with the exception of Data Element #785, Binary Data). Within diagrams, the notation "N/L" is used to represent instances where data matches the segment terminator.

Simple Model

A set of equations used to predict a fuel's performance based on parametric inputs. The Simple Model is valid only from 1995 through 1997.

Standards

Standards are the technical documentation approved by ASC X12, including Transaction Sets, Segments, Data Elements, Codes and Interchange Control Structures.

Sub-Element Separator

Sometimes referred to as a *Component Data Element Separator*, the sub-element separator is a unique character that precedes each Component Data Element in a Composite Data Structure. It is specified by the sender in the Interchange Control Header (ISA). The separator has a range of influence from this header to the next Interchange Control Trailer (IEA) segment. *The sub-element separator must be different from the data element separator and segment terminator.* Once specified in the ISA segment, a sub-element separator may not appear in a data element value (with the exception of Data Element #785, Binary Data). Within diagrams, the colon (:) is used to represent the separator character.

Syntax

The grammar or rules that define the structure of the EDI standards (i.e., the use of loops, qualifier, etc.). Syntax rules are published in ANSI X12.6.

T50

Temperature at which 50% of a mixture being distilled has evaporated.

T90

Temperature at which 90% of a mixture being distilled has evaporated.

TAME

t-Amyl Methyl Ether.

Toxic Emissions Performance

Difference in exhaust toxic emissions attributed to a gasoline formulation as compared to the 1990 baseline gasoline.

Trading Partner

See "reporting party".

Transaction Set

The transaction set unambiguously defines, in the standard syntax, information of business or strategic significance and consists of a transaction set header segment, one or more data segments in a specified order, and a transaction set trailer segment.

Transaction Set ID

An identifier that uniquely identifies the transaction set. This identifier is the first data element of the transaction set header segment.

Translation

The act of accepting documents in other than X12 standard format and converting them to the X12 standard format.

Transmission Control

Defines how information is transmitted across communications lines and includes routing and *recommendations*.

UNCID

Uniform Rules of Conduct For Interchange of Trade Data by Teletransmission.

VAN

Value Added Network. Third-party service organizations.

Version/Release

Identifies the publication of the standard being used for the generation or the interpretation of data in the X12 standard format. May be found in the Functional Group Header Segment (GS) and in the Interchange Control Header Segment (ISA). (E.g., Version 003040 means Version 3 Release 4.) See Control Segment.

VOC

Volatile Organic Compounds.

VOC - Controlled

Summer Volatility Control Program, from 6/1 through 9/15 which limits the volatility of gasoline.

VOC - Control - Region 1

Southern section of the United States where certain volatility standards are applicable.

VOC -Control - Region 2

Northern section of the United States where certain volatility standards are applicable.

VOC - Not Controlled

Time period outside the 6/1 through 9/15 period when the Summer Volatility Program is not in effect.

VOC Emissions Performance

Difference in exhaust VOC emissions attributed to a gasoline formulation as compared to the 1990 baseline gasoline.

X12

The ANSI committee responsible for the development and maintenance of standards for Electronic Data Interchange (EDI).

X12.5

The ANSI ASC X12.5 standard that defines the Interchange Control Structures. This standard defines the control structures, the interchange envelope of a header (ISA) and trailer (IEA) for the electronic interchange through a data transmission, and it provides a structure to acknowledge the receipt and processing of this envelope.

X12.6

The ANSI ASC X12.6 standard defines the Application Control Structure. This standard defines the structure of business transactions for computer-to-computer interchange.

SECTION 8 - FORMS AND DOCUMENTS

8.1 ASC X12 Transactions

The Reformulated Gasoline and Anti-dumping Program (REFGAS) EDI Project complies with the ASC X12 standards for Electronic Data Interchange. The REFGAS process supports the following ASC X12 standards at this time:

- ! ISA/IEA, GS/GE, ST/SE Header and Trailer Formats;
- ! 863 Report of Test Results (X12.41)
- ! 867 Product Transfer and Resale Report (X12.33); and
- ! 997 Functional Acknowledgment (X12.20).

8.1.1 Header/Trailer Format

The EPA has defined the elements to be used in the following segments for all messages:

| | |
|----------------|---|
| ISA/IEA | Interchange Control Header/Trailer |
| GS/GE | Functional Group Control Header/Trailer |
| ST/SE | Transaction Set Header/Trailer |

The interchange header and trailer segments envelope one or more functional groups or interchange related control segments and perform the following functions:

- ! Define the data element separators and data segment terminators;
- ! Identify the sender and receiver;
- ! Provide control information for the interchange; and
- ! Allow for authorization and security information.

8.1.2 863: Report of Test Results Transaction Set

The 863 Report of Test Results transaction set is used to exchange the following Reports:

- Batch Report (*Refer to Appendix A*)
- RVP Averaging Report (*Refer to Appendix B*)
- VOC Emissions Performance Averaging Report (*Refer to Appendix C*)
- Sulfur, Olefins, and T90 Averaging Report (*Refer to Appendix D*)

- NOx Emissions Performance Averaging Report (*Refer to Appendix E*)
- Toxic Emissions Performance Averaging Report (*Refer to Appendix F*)
- Benzene Content Averaging Report (*Refer to Appendix G*)
- Oxygen Content Averaging Report (*Refer to Appendix H*)
- Renewable Oxygen - Content Averaging Report (*Refer to Appendix I*)
- Anti Dumping Gasoline Program Annual Report (*Refer to Appendix L*)

[Note: Appendix A is attached. The other appendices are currently on this BBS in file EDIMAPS.ZIP. No change is foreseen in the other appendices at this time.]

The receipt of the 863 Report of Test Results is acknowledged with a 997 Functional Acknowledgement.

8.1.3 867: Product Transfer and Resale Report Transaction Set

The 867 Product Transfer and Resale Report transaction set is used to exchange the following Reports:

- Credit Transfer Summary Report (*Refer to Appendix J*)
- Averaging Areas Report (*Refer to Appendix K*)

The receipt of the 867 Product Transfer and Resale is acknowledged with a 997 Functional Acknowledgment

8.1.4 997: Functional Acknowledgment Form

A 997 Functional Acknowledgment is sent by REFGAS to the Reporting Party in response to the receipt of the received transactions. It acknowledges only the receipt and syntactical readability of the received transaction.

8.2 ASC X12 Documents

The following ASC X12 documents should be referenced for additional information standard format and technical issues.

ASC X12 Draft Standards
Version 003 Release 050
Document Number ASC X12S/90-856

These documents are available through:

Data Interchange Standards Association, Inc. (DISA)

REFGAS EDI TECHNICAL GUIDELINE

1800 Diagonal Road, Suite 200
 Alexandria, VA 22314-2852
 Phone: (703) 548-7005
 FAX: (703) 548-5738

8.3 EPA REFGAS Code Lists

8.3.1 Controlled Code Lists 1-9

| EPA CODE LIST ID | NAME | CONTENT |
|------------------|--|---|
| 01 | IDENTIFICATIONS, N103, DE 66 = EP | N104, DE 67, ID Code NNNN - Company (Min 4, Max 4) FFFFF - Facility (Min 5, Max 5) |
| 02 | PIN, REF01, DE 128 = 4A | REF02, DE 127, (Min 4, Max 4) NNNN - Company ANNN - Submitter |
| 03 | PRODUCT, PID02, DE 750 = 08 | PID04, DE 751, Product Description Code (Min 2, Max 2) CB - Conventional Blendstock EE - Conventional Blendstock (EEP Report) CG - Conventional Gasoline OB - Conventional Gasoline (Oxygen Blackout) OE - Both OB and EE GT - GTAB - Gasoline Treated as Blendstock RX - RBOB - Total All Types (See Anti-dump & Oxy. Avg. Rpts.) RO - RBOB - Any Oxygenate RR - RBOB - Any Renewable Oxygenate RE - RBOB - Ethers Only RN - RBOB - Non-VOC Controlled Renewable Ether Only RS - RBOB - Refiner Specified RT - RBOB - Renewable Ether Only RG - Reformulated Gasoline |
| 04 | GRADE, PID 02, DE 750 = 38 | PID04, DE 751, Product Description Code (Min 2, Max 2) RG - Regular MG - Mid-Grade PR - Premium MX - Mixed |
| 05 | PROGRAM, PID02, DE 750 = PG | PID04, DE 751, Product Description Code (Min 2, Max 2) |
| 06 | VOC CONTROL, PID02, DE 750 = VC | PID04, DE 751, Product Description Code (Min 2, Max 2) V1 - VOC - Control Region 1 V2 - VOC - Control Region 2 VN - Not VOC Controlled |
| 07 | COMPLIANCE METHOD, PID02, DE 750 = CM | PID04, DE 751, Product Description Code (Min 1, Max 2) AS-Alternative Simple Model C - Complex Model S - Simple Model |

| | | |
|----|--|--|
| 08 | SUB PRODUCT, PID02, DE 750 = 09 | PID04, DE 751, Product Description Code (Min 2, Max 2) IR - Included in Ratio Calculations XR - Excluded from Ratio Calculations IC - Included in Compliance Calculations |
| 09 | AREA IDENTIFICATION, N103, DE 66 = EP | N104, DE 67, Area Identification (Min 3, Max 3) |

8.3.2 Code List 10 - RFG Covered Program Areas

| CODE | RFG COVERED PROGRAM AREAS |
|-------------------------|---|
| "Required" Areas | |
| 001 | Los Angeles - Anaheim - Riverside, CA |
| 002 | San Diego County, CA |
| 003 | Greater Connecticut |
| 004 | New York - Northern New Jersey - Long Island - Connecticut area |
| 005 | Philadelphia - Wilmington - Trenton - Cecil County, MD area |
| 006 | Chicago - Gary - Lake County, IL - Indiana - Wisconsin area |
| 007 | Baltimore, MD |
| 008 | Houston - Galveston - Brazoria, TX |
| 009 | Milwaukee - Racine, WI |
| "Opt-in" Areas | |
| 021 | Sussex County, DE |
| 022 | Washington, DC |
| 023 | Cincinnati - Hamilton, OH* *Ohio counties have not opted-in. |
| 024 | Louisville, KY |
| 025 | Hancock and Waldo Counties, ME |
| 026 | Knox and Lincoln Counties, ME |
| 027 | Lewiston - Auburn, ME |
| 028 | Portland, ME |
| 029 | Queen Anne's and Kent Counties, MD |
| 030 | Springfield, MA |
| 031 | Boston - Lawrence - Worcester (E. MA) |
| 032 | Manchester, NH |
| 033 | Portsmouth - Dover - Rochester, NH |
| 034 | Allentown, PA - Bethlehem, PA - Easton, PA |
| 035 | Atlantic City, NJ |
| 036 | Albany - Schenectady - Troy |
| 037 | Buffalo - Niagara Falls |
| 038 | Poughkeepsie, NY |
| 039 | The portion of Essex County, NY, |
| 040 | Jefferson County, NY |
| 041 | Altoona, PA |

REFGAS EDI TECHNICAL GUIDELINE

| CODE | RFG COVERED PROGRAM AREAS |
|-------------|---|
| 042 | Erie, PA |
| 043 | Harrisburg - Lebanon - Carlisle, PA |
| 044 | Johnstown, PA |
| 045 | Lancaster, PA |
| 046 | Pittsburgh - Beaver Valley |
| 047 | Reading, PA |
| 048 | Scranton - Wilkes-Barre, PA |
| 049 | York, PA |
| 050 | Youngstown, OH - Warren, OH - Sharon, PA* * Ohio counties have not opted-in. |
| 051 | The entire state of Rhode Island |
| 052 | Dallas - Fort Worth |
| 053 | Richmond - Petersburg, VA |
| 054 | Norfolk - Virginia Beach - Newport News |
| 055 | Sheboygan, WI |
| 056 | Kewaunee County, WI |
| 057 | Manitowic County, WI |

8.3.3 Code List 11 - REFGAS Product Type Code

| CODE | COMPLIANCE MODEL | VOC CONTROL | PROGRAM | PRODUCT DESCRIPTION |
|------|-------------------|-------------|----------|---|
| S1 | Simple | VOC | OPRG | RBOB |
| S2 | Simple | VOC | OPRG | AVG'D RFG |
| S3 | Simple | VOC | non-OPRG | RBOB |
| S4 | Simple | VOC | non-OPRG | AVG'D RFG |
| S5 | Simple | non-VOC | OPRG | RBOB |
| S6 | Simple | non-VOC | OPRG | AVG'D RFG |
| S7 | Simple | non-VOC | non-OPRG | RBOB |
| S | Simple | non-VOC | non-OPRG | AVG'D RFG |
| C1 | Complex | N/A | OPRG | RBOB Volume. |
| C2 | Complex | N/A | OPRG | AVG'D RFG |
| C3 | Complex | N/A | non-OPRG | RBOB |
| C4 | Complex | N/A | non-OPRG | AVG'D RFG |
| T1 | Simple | VOC | N/A | VOC Controlled Reformulated Gasoline Valid only when Simple Model is used for compliance determination. |
| T2 | Simple or Complex | N/A | non-OPRG | All non-OPRG Reformulated Gasoline. |
| T3 | Simple or Complex | N/A | N/A | All Reformulated Gasoline |

8.4 FORMS AND REPORTS

Summary of Reports

| REPORT NAME | APPENDIX | REGULATORY DEADLINES | | | |
|---|----------|-----------------------|---------------------------|---------------------------|---|
| | | 1ST QTR DUE MAY 31 | 2ND QTR DUE AUG. 31 | 3RD QTR DUE NOV. 30 | 4TH QTR DUE LAST DAY OF FEBRUARY |
| Batch Report | A | / | / | / | /* |
| RVP Averaging Report | B | | | / | |
| VOC Emission Performance Averaging Report (complex model Only) | C | | | / | |
| Sulfur, Olefins, and T90 Averaging Report | D | | | | / |
| NOX Emission Performance Averaging Report (complex model Only) | E | | | | / |
| Toxic Emission Performance Averaging Report | F | | | | / |
| Benzene Content Averaging Report | G | | | | / |
| Oxygen Content Averaging Report | H | | | | / |
| Renewable Oxygen Content Averaging Report | I | | | | / |
| Credit Transfer Summary Report | J | | | | / |
| Averaging Areas Report | K | | | | / |
| Anti Dumping Report | L | | | | / |

* For conventional gasoline refiners and importers, batch reports are due in the 4th quarter for the entire year.

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SECTION 9 - AGENCY CONVENTIONS, INTERCHANGE CONTROL STRUCTURES & TRANSACTION SETS

9.1 Introduction

The ANSI ASC X12 conventions for Electronic Data Interchange exchange of REFGAS transactions with the U.S. Environmental Protection Agency (EPA) are documented in this Section.

Section 9 describes the information used in the Interchange Header (ISA), Interchange Trailer (IEA), Group Start (GS), Group End (GE), and the control segments. The 997, Functional Acknowledgement, is also described by presenting segments to be used. Finally, the Section provides details of each segment on individual pages, including details of the data elements and any codes or qualifiers that are required.

To help understand how the standards work, it is essential to clarify the terminology and syntax used, and to explain some of the components that make electronic communications possible.

A "*transaction set*" is a standards-based, electronic translation of what, in business, can be thought of as a single, common business document that is to be exchanged between two trading partners. Examples include the purchase order, invoice, and shipping notice. The data included in a transaction set conveys the same information as a conventional printed document. EDI transaction sets are generally created from information extracted from internal information systems, translated into ASC X12 format and punctuated with control characters.

In ANSI ASC X12 syntax, a transaction set consists of three areas - the *Header* or Table 1, the *Detail* or Table 2, and a *Summary* or Table 3. The *Header Area* contains information that is of an administrative nature and pertains to the entire document (document dates, identities, names of contacts, etc.). The *Detail Area* is used to convey the actual business information, and may include such information as quantity, price, and item number. Data in the Detail Area overrides equivalent Header Area data (i.e. if a contact is specified in the Header and another contact is specified with a single item, the second contact takes priority). The *Summary Area* contains control information and may contain additional data, including totals, that relate to the entire transaction.

The Header, Detail, and Summary Areas are composed of a series of *segments*. A segment is a logical grouping of data. A segment contains *data elements*. A data element is the smallest discrete piece of data in the ASC X12 syntax. Please note that in the design of Composite Data Elements, sub-elements are still referred to as elements.

In the ASC X12 syntax, each data element is separated by an element separator and the last element is followed by a segment terminator. For an example, the data elements quantity, unit of measure, unit price, and catalogue number are typically found on a purchase order or

invoice. Within an invoice transaction set, this data is conveyed in a segment of five data elements grouped in a specific sequence as follows:

IT1Quantity*Unit of Measure Code*Unit Price** Product Service
Qualifier*Product/Service Identification N/L**

The element separators are graphically represented by the following notations:

| | |
|--------------|------------------------|
| Asterisk (*) | Element separator |
| N/L | Segment terminator |
| Colon (:) | Sub-element separator. |

In an actual translation, the segment would appear as:

IT11*CA*1.08**CT*141151 N/L**

In the ASC X12 code list, "CA" is the unit of measure code for case, and "CT" is the product identification qualifier for carton.

The following list defines terms associated with segments and provides references to codes and terms used in the X12 standard. The actual translation does not include all of the listed items as only the segment identifier characters, the values for each data element, the data element separators and the segment terminator characters are included.

Segment Identifier: Two or three characters used to identify the segment. The segment identifier occupies the first character positions of the segment.

Data Element Reference Number: A number assigned to a data element which provides a reference to the ASC X12 Data Dictionary specification associated with that data element.

Data Element Reference Designator: A structured code assigned to each data element in a segment to indicate its unique position in the segment. The data element reference designator is composed of the segment identifier and its sequential position within the segment.

Data Element Name: The name assigned to the data element in the ASC X12 Data Dictionary.

Attributes: Characteristics associated with the data element. Each data element has three ASC X12 attributes: usage or Condition Designator, Type, and Minimum/Maximum length.

Condition Designator

M - Mandatory

The element is required to appear in the segment.

O - Optional

Appearance of the data element is at the option of the sending party or is based on the mutual agreement of the trading partners.

X - Relational

Condition that may exist between two or more data elements based on the presence or absence of one of the data elements. Additional codes are used to identify the condition:

P - Paired or Multiple,

R - Required,

E - Exclusion,

C - Conditional, or

L - List Conditional.

Refer to the X12 Standards Manual, Introduction to X12.22 Segment Directory for more information.

Data Element Type

ID - Identifier

The data element must always contain a value from a predefined list of values that is maintained by X12 or by other bodies that are recognized by X12. The value is left justified. Trailing spaces should be suppressed.

AN - String

Alpha-numeric sequence of characters containing at least one non-space character. The significant characters must be left justified. Any leading spaces are assumed to be significant characters. Trailing spaces should be suppressed.

FS - Fixed Length String

A sequence of any letters, spaces, and/or special characters, filled with spaces, if necessary, to satisfy minimum length.

DT - Date

The format is YYMMDD where YY is the Year, MM is the month and DD is the day of the month.

TM - Time

Values for a time-type data element are in the HHMMSSd.d format expressed using the 24-hour clock. HH expresses the hour (00-23), MM expresses the minute (00-59), SS the seconds (00-59), and d.d is the numeric expression of decimal seconds.

Nn - Numeric

Numeric data element where N indicates a numeric and "n" indicates the decimal places to the right of a fixed, implied decimal point. The decimal point is not transmitted in the character stream. If the max length of the data element was five position and the Type was N2, the values sent would always have two decimal positions; an N0 would contain no decimal positions.

R - Decimal

A numeric data element where the decimal point is optional for integer values, but required for fractional values. Leading zeros should be suppressed unless necessary to satisfy a minimum length requirement. Decimal points and minus signs are not counted in the length of the data element value. If the max length of the data element was three positions, the following represent the values that could be sent: NNN, .NNN, N.NN, NN.N, -N.NN, etc.

B - Binary

Any sequence of octets ranging in value from binary 00000000 to binary 11111111. Binary data may only exist in the BIN Segment.

Minimum/Maximum: This is the range, minimum to maximum, of the number of character positions available to represent the data element value. It may be of variable length with a minimum to maximum, or it may be of fixed length in which the minimum is equal to the maximum.

9.2 X12 EDI Transmission Control Structure

9.2.1 Control Structure

An X12 Interchange, or message, is a hierarchical structure consisting of multiple transaction sets, and is bounded by an interchange control header and trailer. The interchange structure

allows transaction sets of different types to be transmitted in the same message, and the data is separated or segregated logically for easy interpretation and internal routing by the receiver.

The outermost structure of an EDI message is called the Interchange Envelope. The *interchange control structure* identifies the bounds of the interchange envelope. It consists of a Header (ISA) and a Trailer (IEA). The interchange control structure provides information which identifies the message as a whole, and this information is used to acknowledge the receipt and processing of the envelope. There are other segments available for Security and Interconnect control when using the services of third party communications providers (VANS).

Within an EDI interchange envelope are one or more functional groups. A functional group contains one or more transactions sets of the same type. A *functional group* structure is bounded by a GS (Group Start) and a GE (Group End) segment.

Within a functional group, multiple transaction sets of the same functional type are transmitted together. Each *transaction set* begins with an ST (Transaction Start) segment and ends with an SE (Transaction Set End) segment.

The interchange control envelope (ISA/IEA) contains one or more functional groups or interchange-related control segments and performs the following functions:

- C Defines the segment terminator, and the element and sub-element separators,
- C Identifies the sender and receiver,
- C Provides control information for the interchange, and

Allows for authorization and security information.

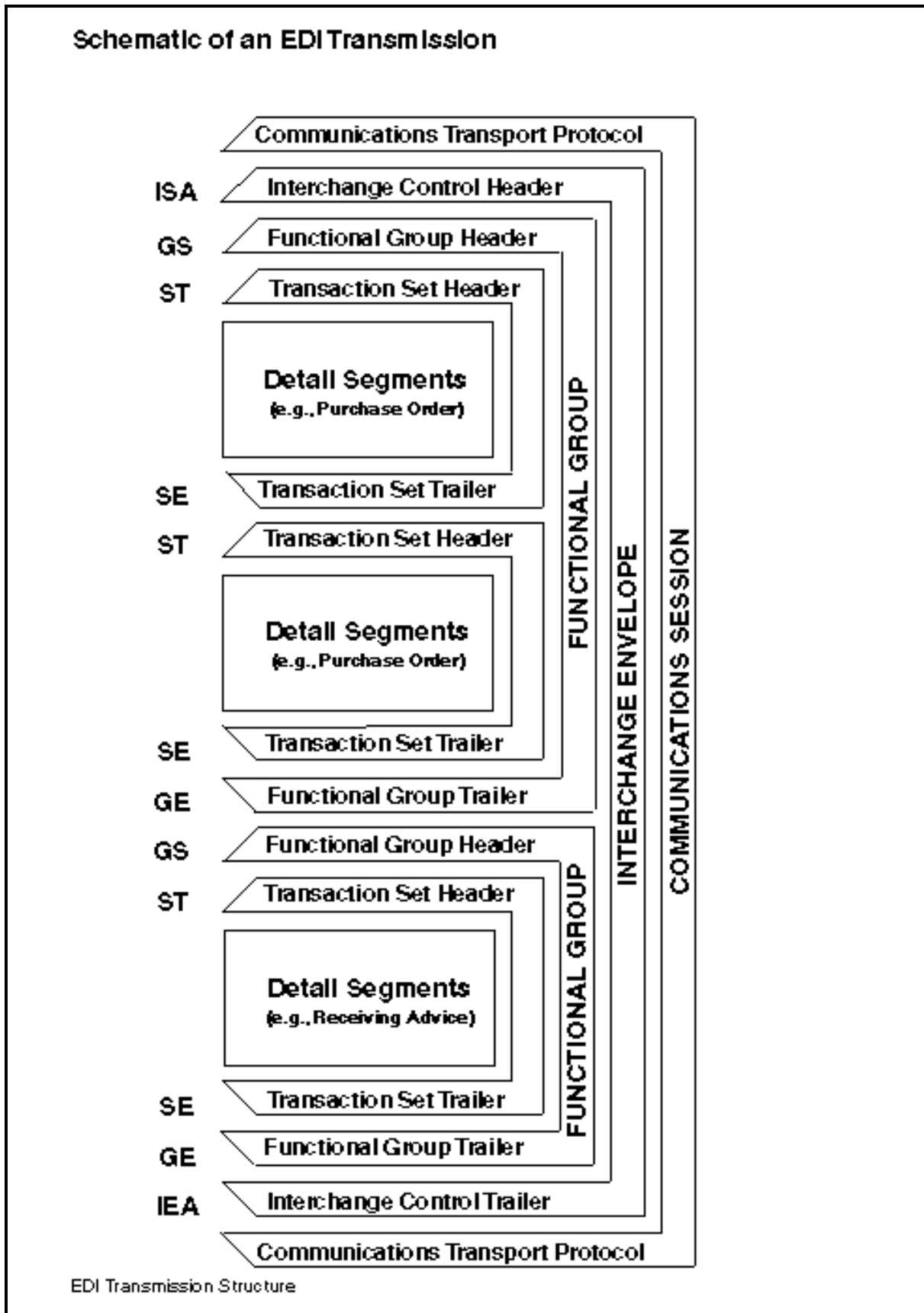
The X12 standard also provides an interchange acknowledgment segment that can be used to acknowledge a message's Header and Trailer. It may be used to report the success of the syntactical analysis of the ISA/IEA. This is not the Functional Acknowledgment.

The GS/GE envelope contains transaction sets of the same type. Each type of transaction is contained in a separate functional group to allow the receiver to forward the information to the appropriate application. The GS segment identifies the Version and Release of the standard used to create the transactions in the group. Both the GS and the GE segments provide control information to ensure the validity of the interchange.

Translators normally strip off the ISA/IEA and GS/GE segments during translation. It is the responsibility of the trading partners to make provision to archive the messages before and after translation to satisfy EDI Audit Requirements.

The structures of the transaction set and functional group headers and trailers are found in the Segment Directory. The structures of the interchange control header and trailer are found in the Interchange Control Structure Standard (dpANS X12.5-1989).

The following EDI Transmission schematic illustrates a typical format for electronically transmitting a series of diverse business transactions.



9.2.2 Control Segments

Segment: **ISA Interchange Control Header**

Purpose: To start and identify an interchange of one or more functional groups and interchange-related control segments.

Notes: The actual values of the data element separator, the sub-element separator, and the segment terminator for all the segments following this ISA (that starts this communication) through the IEA (that completes the message) are established in the ISA. Byte 4, following the three bytes that comprise the ISA (the identification of this header) is used to separate the remaining elements in this and all succeeding data elements through the end of the IEA.

This technical guideline uses the asterisk (*) as the graphic representation of a data element separator. The sub-element separator is established in ISA16, data element I15. The data element I15 is used as the sub-element separator until an IEA segment is encountered.

This technical guideline uses the colon (:) as the graphic representation of a sub-element separator. The value at the last position of the ISA establishes the segment terminator for the communication through the end of the IEA. The ISA consists of fixed length fields, therefore the segment terminator is byte 106 or the first byte after data element ISA16.

This technical guideline uses the N/L as the graphic representation of a segment terminator.

The control characters selected as the segment separator, sub-element separators and the segment terminators must be characters that will not be data characters within the communication. Acceptable characters, in hexadecimal notation are HEX 04, HEX 0D, HEX 4F, HEX 1C OR HEX 15. Refer to the individual EPA technical guidelines for the appropriate control characters.

Example: ISA*00*XXXXXXXXXX*00*XXXXXXXXXX*01*873186902*940115*2300*U*00305*000000789*0*P*:N/L

Data Element Summary

| <u>Ref.</u> | <u>Data</u> | <u>Name</u> | <u>Attributes</u> |
|-------------|----------------|---|-------------------|
| <u>Des.</u> | <u>Element</u> | | |
| ISA01 | I01 | Authorization Information Qualifier | M, ID, 2/2 |
| | | Code to identify the type of information in the Authorization Information | |

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- 00 No Authorization Information Present
(No meaningful Information in I02)
- 01 UCS Communications ID
- 02 EDX Communications ID
- 03 Application Routing Information
- 04 Rail Communications ID

ISA02 I02 Authorization Information M, AN, 10/10

Information used for additional identification or authorization of the sender or the data in the interchange. The type of information is set by the Authorization Information Qualifier.

Ref. Data
Des. Element Name Attributes

ISA03 I03 Security Information Qualifier M, ID, 2/2

Code to identify the type of information in the security Information

- 00 No Security Information Present (No Meaningful Information in I04)
- 01 Password

ISA04 I04 Security Information M, AN, 10/10

This is used for identifying the security information about the sender or the data in the interchange. The type of information is set by the Security Information Qualifier.

ISA05 I05 Interchange ID Qualifier M, ID, 2/2

Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified.

- 01 Duns (Dun & Bradstreet)

ISA06 I06 Interchange Sender ID M, ID, 15/15

Identification code published by the sender for other parties to use as the receiver ID to route data to them. The sender always codes this number in the sender ID element. Together with the Interchange Control Number in ISA13, it uniquely identifies the interchange data to the receiver.

ISA07 I05 Interchange ID Qualifier M, ID, 2/2

Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified.

01 Duns (Dun & Bradstreet)

ISA08 I07 Interchange Receiver ID M, ID, 15/15

Identification code published by the receiver of the data. When sending, it is used by the sender as their sending ID, thus other parties sending to them will use this as a receiving ID to route data to them.

873186902 U.S. EPA, REFGAS

ISA09 I08 Interchange Date M, DT, 6/6

Date of the interchange, in format of YYMMDD.

ISA10 I09 Interchange Time M, TM, 4/4

Time of the interchange, in format of HHMM.

| | | | |
|--------------------|-----------------------|--------------------|--------------------------|
| Ref. | Data | | |
| <u>Des.</u> | <u>Element</u> | <u>Name</u> | <u>Attributes</u> |

ISA11 I10 Interchange Control Standards ID M, ID, 1/1

Code to identify the agency responsible for the control standard used by the message that is enclosed by the interchange header and trailer.

U U.S. EDI Community of ASC X12, TDCC, and UCS

ISA12 I11 Interchange Control Version Number M, ID, 5/5

This version number establishes the interchange control segment version and release. Refer to the individual EPA technical guidelines for the appropriate information. It does not establish the Version/Release for the transactions which follow. That Version/Release is established by the GS (Functional Group Header) preceding the transactions.

00305 Draft Standard for Trial Use Approved for Publication by ASC X12 Procedures Review Board Through February 1995

ISA13 I12 Interchange Control Number M, NO, 9/9

REFGAS EDI TECHNICAL GUIDELINE

This number uniquely identifies the interchange data to the sender. It is assigned by the sender. Together with the sender ID in ISA06 it uniquely identifies the interchange data to the receiver. It is suggested that the sender, receiver, and all third parties be able to maintain an audit trail of interchanges using this number. The number is suggested to start with 000000001 and be incremented by 1 for each subsequent ISA between the sender and receiver. It must match the number in IEA02.

ISA14 **I13** **Acknowledgment Requested** **M, ID, 1/1**

Code sent by the sender to request an interchange acknowledgment.

0 No Acknowledgment Requested
1 Acknowledgment Requested

ISA15 **I14** **Test Indicator** **M, ID, 1/1**

Code to indicate whether data enclosed by this interchange envelope is test or production.

P Production Data
T Test Data

ISA16 **I15** **Sub-element Separator** **M, AN, 1/1**

Note: ISA16 is followed by a character that will establish the segment terminator for the balance of the communication, through the end of the IEA. Refer to the Notes at the start of this segment.

6

Segment: IEA Interchange Control Trailer**Purpose:** To define the end of an interchange of one or more functional groups and interchange-related control segments.**Example:** IEA*1*000000789 N/L

Data Element Summary

| <u>Ref.</u> <u>Des.</u> | <u>Data</u> <u>Element</u> | <u>Name</u> | <u>Attributes</u> |
|----------------------------|-------------------------------|--|-------------------|
| IEA01 | I16 | Number of Included Functional Groups | M, N0, 1/5 |
| | | A count of the number of functional groups included in a message. | |
| IEA02 | I12 | Interchange Control Number | M, N0, 9/9 |
| | | This number uniquely identifies the interchange data to the sender. It is assigned by the sender. Together with the sender ID it uniquely identifies the interchange data to the receiver. It is suggested that the sender, receiver, and all third parties be able to maintain an audit trail of interchanges using this number. This number must agree with the number in ISA12. | |

REFGAS EDI TECHNICAL GUIDELINE

Segment: GS **Functional Group Header**

Purpose: To indicate the beginning of a functional group and to provide control information.

Syntax: 1 The data interchange control number (GS06) in this header must be identical to the same data element in the associated Functional Group Trailer (GE02).

Comments: A A functional group of related transaction sets, within the scope of X12 standards, consists of a collection of similar transaction sets enclosed by a functional group header and a functional group trailer.

Notes: The GS establishes the Version/Release for the transaction sets between it and the GE (Group End).

Example: GS*TR*123456789*873186902*940115*2300*1*X*003050 N/L

Data Element Summary

| <u>Ref.</u> <u>Des.</u> | <u>Data</u> <u>Element</u> | <u>Name</u> | <u>Attributes</u> |
|----------------------------|-------------------------------|--|------------------------------------|
| GS01 | 479 | Functional Identifier Code | M, ID, 2/2 |
| | | Code identifying a group of application related transaction sets. Listed below are examples. | |
| | | FA | Functional Acknowledgement (997) |
| | | PT | Products Transfer and Resale (867) |
| | | TR | Test Results Notification (863) |
| GS02 | 142 | Application Sender's Code | M, AN, 2/15 |
| | | Code identifying the party sending the message. Codes agreed to by trading partners. Like ISA06. | |
| | | Use DUNs Number. | |
| GS03 | 124 | Application Receiver's Code | M, AN, 2/15 |
| | | Code identifying the party receiving the message. Codes agreed to by trading partners. Like ISA08. | |
| | | Use DUNs Number. | |
| GS04 | 29 | Group Date | M, DT, 6/6 |
| | | Date sender generated a functional group of transaction sets. See ISA09. | |

GS05

30

Group Time

M, TM, 4/4

Time (HHMM) when the sender generated a functional group of transaction sets (local time at sender's location).

REFGAS EDI TECHNICAL GUIDELINE

| <u>Ref.</u> <u>Des.</u> | <u>Data</u> <u>Element</u> | <u>Name</u> | <u>Attributes</u> |
|----------------------------|-------------------------------|---|--------------------|
| GS06 | 28 | Group Control Number | M, N0, 1/9 |
| | | Start with 1 and increment by 1 for each subsequent GS in the communication. | |
| | | Assigned number originated and maintained by the sender. | |
| GS07 | 455 | Responsible Agency Code | M, ID, 1/2 |
| | | Code used in conjunction with Data Element 480 to identify the issuer of the standard. | |
| | | X Accredited Standards Committee X12 | |
| GS08 | 480 | Version/Release/Industry ID Code | M, ID, 1/12 |
| | | Code indicating the version, release, sub-release and industry (Agency) identifier of the EDI standard being used. Positions 1-3, version number; positions 4-5, release, and position 6, sub-release level of version; positions 7-12, industry, Agency or trade association identifier (optionally assigned by user). | |
| | | 003050+ is the release used for REFGAS | |
| | | where the "+" indicates other subsequent modifications and need not be entered in the GS08. The version is "003". The release is "05" and the subrelease is "0". | |

Segment: **GE** **Functional Group Trailer**

Purpose: To indicate the end of a functional group and to provide control information.

Syntax: 1 The data interchange control number (GE02) in this trailer must be identical to the same data element in the associated Functional Group Header (GS06).

Comments: A The use of identical data interchange control number in the associated Functional Group Header and Trailer is designed to maximize functional group integrity. The control number is the same as that used in the corresponding header.

Example: GE*9*1 N/L

Data Element Summary

| <u>Ref.</u> | <u>Data</u> | <u>Name</u> | <u>Attributes</u> |
|-------------|----------------|---|-------------------|
| <u>Des.</u> | <u>Element</u> | | |
| GE01 | 97 | Number of Transaction Sets Included | M, N0, 1/6 |
| | | Total number of transaction sets included in the functional group terminated by the trailer containing this data element. | |
| GE02 | 28 | Group Control Number | M, N0, 1/9 |
| | | Assigned number originated and maintained by the sender. It must be identical to the number in the Group Header(GS06). | |

9.3 997 Functional Acknowledgement

9.3.1 Transaction Structure

997 Functional Acknowledgment

This Draft Standard for Trial Use contains the format and establishes the data contents of the Functional Acknowledgment Transaction Set (997) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to define the control structures for a set of acknowledgments to indicate the results of the syntactical analysis of the electronically encoded documents. The encoded documents are the transaction sets, which are grouped in functional groups, used in defining transactions for business data interchange. This standard does not cover the semantic meaning of the information encoded in the transaction sets.

TABLE 1

| | | |
|----------------------|--|-------------------|
| ST | Transaction Set Header | M, 1 |
| AK1 | Functional Group Response Header | M, 1 |
| — Loop ID: AK2 — | | |
| AK2 | Transaction Set Response Header | O,1,999999 |
| — Loop ID: AK2/AK3 — | | |
| AK3 | Data Segment Note | O,1,999999 |
| AK4 | Data Element Note | O, 99 |
| <hr/> | | |
| AK5 | Transaction Set Response Trailer | M, 1 |
| AK9 | Functional Group Response Trailer | M, 1 |
| SE | Transaction Set Trailer | M, 1 |

Segment: ST **Transaction Set Header**

Level: Header

Loop: _____

Usage: Mandatory

Max Use: 1

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

Syntax: 1 The transaction set identifier (ST01) used by the translation routines of the interchange partners to select the appropriate transaction set definition (e.g., 810 selects the invoice transaction set).

Example: ST*997*0001 N/L

Data Element Summary

| <u>Ref.</u> | <u>Data</u> | <u>Name</u> | <u>Attributes</u> |
|-------------|----------------|--|-------------------|
| <u>Des.</u> | <u>Element</u> | | |
| ST01 | 143 | Transaction Set ID Code | M, ID, 3/3 |
| | | Code uniquely identifying a transaction set. | |
| ST02 | 329 | Transaction Set Control Number | M, AN, 4/9 |
| | | Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set. | |
| | | <i>Start with 0001 and increment by 1 for each subsequent transaction set.</i> | |

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Segment: AK1 Functional Group Response Header
Level: Header
Loop: _____
Usage: Mandatory
Max Use: 1
Purpose: To start acknowledgment of a functional group.
Syntax: 1 AK101 is the functional ID found in the GS segment (GS01) in the functional group being acknowledged.
 2 AK102 is the functional group control number found in the GS segment (GS06) in the functional group being acknowledged.
Notes: 1 *AK1 is used to respond to the functional group header and to start the acknowledgement for the functional group that is being acknowledged.*
Example: AK1*RT*1 N/L
 AK1*PI*1 N/L

Data Element Summary

| Ref. Des. | Data Element | Name | Attributes |
|-----------|--------------|--|------------|
| AK101 | 479 | Functional Identifier Code | M, ID, 2/2 |
| | | Code identifying a group of application related transaction sets. | |
| | | PT Product Transfer and Resale Report (867) RT Report of Test Results (863) | |
| AK102 | 28 | Group Control Number | M, N0, 1/9 |
| | | Assigned number originated and maintained by the sender. | |
| | | Specific value from GS06 of the functional group being acknowledged. | |

Segment: AK2 Transaction Set Response Header

Level: Header

Loop: AK2 Repeat: 999999

Usage: Optional

Max Use: 1

Purpose: To start acknowledgment of a single transaction set.

Syntax:

- 1 AK201 is the transaction set ID found in the ST segment (ST01) in the transaction set being acknowledged.
- 2 AK202 is the transaction set control number found in the ST segment (ST02) in the transaction set being acknowledged.

Notes:

- 1 *AK2 is used to start the acknowledgement of a transaction set within the received functional group. The AK2 segments shall appear in the same order as the transaction sets in the functional group that has been received and is being acknowledged.*

Example:

AK2*863*0001 N/L
AK2*867*0001 N/L

Data Element Summary

| <u>Ref.</u> | <u>Data</u> | <u>Name</u> | <u>Attributes</u> |
|-------------|----------------|--|-------------------|
| <u>Des.</u> | <u>Element</u> | | |
| AK201 | 143 | Transaction Set Identifier Code | M, ID, 3/3 |
| | | Code uniquely identifying a transaction set. | |
| AK202 | 329 | Transaction Set Control Number | M, AN, 4/9 |
| | | Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set. Contains the value from ST02 of the transaction set being acknowledged. | |

REFGAS EDI TECHNICAL GUIDELINE

Segment: AK3 Data Segment Note

Level: Header

Loop: AK2/AK3 Repeat: 999999

Usage: Optional

Max Use: 1

Purpose: To report errors in a data segment and to identify the location of the data segment.

Notes: 1 *The data segments of this standard are used to report the results of the syntactical analysis of the functional groups of transaction sets; they report the extent to which the syntax complies with the standards for transaction sets and functional groups. They do not report on the semantic meaning of the transaction sets (for example, on the ability of the receiver to comply with the request of the sender).*

Example: AK3*REF*7**5 N/L
AK3*PER*5**8 N/L

Data Element Summary

| <u>Ref. Des.</u> | <u>Data Element</u> | <u>Name</u> | <u>Attributes</u> |
|------------------|---------------------|--|-------------------|
| AK301 | 721 | Segment ID Code | M, ID, 2/3 |
| | | Code defining the segment ID of the data segment in error. | |
| AK302 | 719 | Segment Position In Transaction Set | M, N0, 1/6 |
| | | The numerical count position of this data segment from the start of the transaction set: the transaction set header is count position 1. | |
| AK303 | 447 | Loop Identifier Code | O, AN, 1/4 |
| | | The loop ID number given on the transaction set diagram is the value for this data element in segments LS and LE. | |
| AK304 | 720 | Segment Syntax Error Code | O, ID, 1/3 |
| | | Code indicating error found based on the syntax editing of a segment. | |
| AK305 | 720 | Segment Syntax Error Code | O, ID, 1/3 |

Code indicating error found based on the syntax editing of a segment.

AK306 **720** **Segment Syntax Error Code** **O, ID, 1/3**

Code indicating error found based on the syntax editing of a segment.

| | | | |
|--------------------|-----------------------|--------------------|--------------------------|
| Ref. | Data | | |
| <u>Des.</u> | <u>Element</u> | <u>Name</u> | <u>Attributes</u> |

AK307 **720** **Segment Syntax Error Code** **O, ID, 1/3**

Code indicating error found based on the syntax editing of a segment.

AK308 **720** **Segment Syntax Error Code** **O, ID, 1/3**

Code indicating error found based on the syntax editing of a segment.

REFGAS EDI TECHNICAL GUIDELINE

Segment: AK4 Data Element Note

Level: Header

Loop: AK2/AK3

Usage: Optional

Max Use: 99

Purpose: To report errors in a data element and to identify the location of the data element.

Example: AK4*1*128*7 N/L

Data Element Summary

| <u>Ref.</u> <u>Des.</u> | <u>Data</u> <u>Element</u> | <u>Name</u> | <u>Attributes</u> |
|----------------------------|-------------------------------|--|-------------------|
| AK401 | 722 | Element Position in Segment | M, N0, 1/2 |
| | | This is used to indicate the relative position of the data element in error in this data segment. The count starts with 1 for the data element immediately following the segment ID. This value is 0 for an error in the segment ID. | |
| AK402 | 725 | Data Element Reference Number | O, N0, 1/4 |
| | | Reference number used to locate the Data Element Dictionary. | |
| AK403 | 723 | Data Element Syntax Error Code | M ID, 1/3 |
| | | Code indicating the error found after syntax edits of a data element. | |
| AK404 | 724 | Copy of Bad Data Element | O, AN, 1/99 |
| | | This is a copy of the data element in error. | |

Segment: AK5 Transaction Set Response Trailer

Level: Header

Loop: AK2

Usage: Mandatory

Max Use: 1

Purpose: To acknowledge acceptance or rejection and to report errors in a transaction set.

Notes: 1 *The AK5 is used to end the acknowledgment of a transaction set within the received functional group. The AK5 is mandatory in the AK2 and AK5 loop; however this loop is optional. There is one AK5 segment per AK2 segment.*

Example: AK5*R*5 N/L

Data Element Summary

| <u>Ref. Des.</u> | <u>Data Element</u> | <u>Name</u> | <u>Attributes</u> |
|------------------|---------------------|--|-------------------|
| AK501 | 717 | Transaction Set Acknowledgement Code | M, ID, 1/1 |
| | | Code indicating accept (A) or reject (R) condition based on the syntax editing of the transaction set. | |
| AK502 | 718 | Transaction Set Syntax Error Code | O, ID, 1/3 |
| | | Code indicating error found based on the syntax editing of a transaction set. | |
| AK503 | 718 | Transaction Set Syntax Error Code | O, ID, 1/3 |
| | | Code indicating error found based on the syntax editing of a transaction set. | |
| AK504 | 718 | Transaction Set Syntax Error Code | O, ID, 1/3 |
| | | Code indicating error found based on the syntax editing of a transaction set. | |
| AK505 | 718 | Transaction Set Syntax Error Code | O, ID, 1/3 |
| | | Code indicating error found based on the syntax editing of a transaction set. | |
| AK506 | 718 | Transaction Set Syntax Error Code | O, ID, 1/3 |

Code indicating error found based on the syntax editing of a transaction set.

Segment: AK9 Functional Group Response Trailer

Level: Header

Loop: _____

Usage: Mandatory

Max Use: 1

Purpose: To acknowledge acceptance or rejection of a functional group and report the number of included transaction sets from the original trailer, the accepted sets, and the received sets in this functional group.

Comments: A If AK901 is 'A' or 'E', then the transmitted functional group is accepted. If AK901 is 'R', then the transmitted group is rejected.

Notes: 1 The AK9 segment is used to complete the response for the functional group acknowledgement. The AK9 segment is mandatory. In addition to completing the response, it provides a summary of the counts of the transaction sets.

Example: AK9*A*3*3*3 N/L

Data Element Summary

| <u>Ref.</u> | <u>Data</u> | <u>Name</u> | <u>Attributes</u> |
|-------------|----------------|--|-------------------|
| <u>Des.</u> | <u>Element</u> | | |
| AK901 | 715 | Functional Group Acknowledge Code | M, ID, 1/1 |
| | | Code indicating accept or reject condition based on the syntax editing of the functional group. | |
| AK902 | 97 | Number of Transaction Sets Included | M, N0, 1/6 |
| | | Total number of transaction sets included in the functional group or interchange (message) group terminated by the trailer containing this data element. | |
| | | <i>Number of received transaction sets (value from GE01 in the received functional group).</i> | |
| AK903 | 123 | Number of Received Transaction Sets | M, N0, 1/6 |
| | | Number of transaction sets received. | |
| | | <i>Receivers count.</i> | |

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| | | | |
|-------------|----------------|--|-------------------|
| AK904 | 2 | Number of Accepted Transaction Sets | M, NO, 1/6 |
| | | Number of accepted transaction sets in a functional group. | |
| AK905 | 716 | Functional Group Syntax Error Code | O, ID, 1/3 |
| | | Code indicating error found based on the syntax editing of the functional group header and/or trailer. | |
| Ref. | Data | | |
| Des. | Element | Name | Attributes |
| AK906 | 716 | Functional Group Syntax Error Code | O, ID, 1/3 |
| | | Code indicating error found based on the syntax editing of the functional group header and/or trailer. | |
| AK907 | 716 | Functional Group Syntax Error Code | O, ID, 1/3 |
| | | Code indicating error found based on the syntax editing of the functional group header and/or trailer. | |
| AK908 | 716 | Functional Group Syntax Error Code | O, ID, 1/3 |
| | | Code indicating error found based on the syntax editing of the functional group header and/or trailer. | |
| AK909 | 716 | Functional Group Syntax Error Code | O, ID, 1/3 |
| | | Code indicating error found based on the syntax editing of the functional group header and/or trailer. | |

Segment: SE Transaction Set Trailer

Level: Header

Loop: _____

Usage: Mandatory

Max Use: 1

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).

Comments: A SE is the last segment of each transaction set.

Example: SE*14*0001 N/L

Data Element Summary

| <u>Ref.</u> | <u>Data</u> | <u>Name</u> | <u>Attributes</u> |
|-------------|----------------|---|-------------------|
| <u>Des.</u> | <u>Element</u> | | |
| SE01 | 96 | Number of Included Segments | M, N0, 1/10 |
| | | Total number of segments included in a transaction set including ST and SE segments. | |
| SE02 | 329 | Transaction Set Control Number | M, AN, 4/9 |
| | | Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set | |
| | | <i>Must be the same value as ST02.</i> | |

9.3.2 Sample Functional Acknowledgment 997 Transaction

This example demonstrates the acknowledgement that might be sent upon receipt of a message containing 3 reports (transaction set 863 - Report of Test Results); two were correct; the third had an error in the eighth segment, a PER which contained an invalid code in the second data element.

```
ST*997*0001 N/L
AK1*RT*2 N/L
AK2*863*0001 N/L
AK5*A N/L
AK2*863*0002 N/L
AK5*A N/L
AK2*863*0003 N/L
AK3*PER*8 N/L
AK4*2*366*7 N/L
AK5*R N/L
AK9*A*3*3*2 N/L
SE*12*0001 N/L
```

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APPENDIX A

A.1 Batch Report Introduction

Purpose: Submitted by refiners and importers of reformulated and conventional gasolines, and gasoline blendstocks, oxygenate blenders of averaged reformulated gasoline (RFG) and laboratories used by refiners and importers of RFG and RBOB, to meet independent sampling and testing requirements. Used to report the properties, composition, and emissions performance of each volume (batch) of gasoline.

Timing: For batches of RFG, RBOB and GTAB, required no later than the last day of the second month following each calendar quarter in which production or importation occurred. For batches of conventional gasoline or applicable blendstocks, the batch report is required by the last day of February following the calendar year in which production or importation occurred.

Early submissions of the reports are encouraged. Reports may be transmitted daily.

Transaction Set: ASC X12 Report of Test Results (863) Version/Release 003050+. A code addition, D7 in DE 786, Distillation Fraction is in the October 1994 Ballot.

The following Data Maintenance Requests have been submitted and should be in the February 1995 Ballot:

1. Add DE 786 Security Level Code to the BTR as BTR07.
2. Add a code to DE 738 to identify "Oxygen from a Renewable Oxygenate".

General:

1. Information for multiple batches may be sent in a transaction set.
2. Original (first time submitted) and Re-submitted (changed/corrected) reports are supported. Identification is by a code in BTR01. All information except the Batch Number may be re-submitted (changed).

When sending a Re-submission, a new Report Number must be provide in BTR05 and the Report Number of the original must be provided in BTR06.

If the information being corrected is Table 1 data, information common to all batches, it is necessary to re-submit the information for all the batches in the original submission. If

the information being corrected is specific to a batch, complete information for the batch being corrected is required.

Mapping Notes:

1. Table 1 is used only for administrative type data.
2. Table 2 contains the identification of the batch being reported and its properties.
3. One LIN Loop is used per batch.
4. Multiple CID*D7 Loops within the LIN are to report the Distillation Fraction at 200 and 300 degrees Fahrenheit.
5. Property and Emissions Performance values are reported in Measurement Segments.
6. Identification of the property being reported is in the Measurement Segment for the following. The codes are X12 Codes from DE 738 and appear in MEA02.

| X12 CODE | MEA02, DE 738 |
|----------|--------------------------------------|
| API | API Gravity |
| A4 | Aromatics |
| ZBZ | Benzene |
| D7 | Distillation Fraction (E200, E300) |
| EXH | Exhaust Benzene Emissions |
| NOx | NOx Emissions Performance |
| OLE | Olefins |
| ZO | Oxygen |
| RVP | Reid Vapor Pressure |
| ZS | Sulfur |
| T50 | T50 |
| T90 | T90 |

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| X12 CODE | MEA02, DE 738 |
|-----------------|-------------------------------|
| TOX | Toxics Emissions Performance |
| VOC | VOC Emissions Performance |
| ETE | Exhaust Toxics Emissions |
| NXE | NOx Emissions |
| NBO | NOx Emissions Oxygen Blackout |

*Note: The entry "ROX" for renewable oxygenate is no longer represented on this table.
Note: As of 4/9/99, codes ETE, NXE and NBO have not been approved by X12.*

When reporting the following properties, it is necessary to use a MEA Segment and its associated LM/LQ Segment Loop for each of the properties. The codes are Chemical Abstract Service (CAS) codes. The MEA Segment will not use a code value in MEA02. The LM Segment contains CA in LM01 to reference the Chemical Abstract Service. The LQ Segment contains the property code in LQ02.

| Chemical Abstract Service Codes (CAS) | |
|--|-----------------------------|
| 637-92-3 | ETBE (Ethyl t-Butyl Ether) |
| 64-17-5 | Ethanol |
| 1634-04-4 | MTBE (Methyl t-Butyl Ether) |
| 67-56-1 | Methanol |
| 75-65-0 | t-Butanol |
| 1784-03-8 | TAME (t-Amyl Methyl Ether) |

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7. The following chart identifies the precision and the unit of measurement for the properties to be reported. The S or C in PID07 indicates the need for a MEA07.

| PROPERTY | MEA02 | MEA03 | MEA04 | | PID07 | | MEA07 DESIGNATORS | |
|------------------------------|-------------|--------|----------------|---------------------|-------|---|-------------------|------------|
| | LQ02* | VALUE | CODE | UM | S | C | AVERAGE | PER GALLON |
| BENZENE CONTENT | ZBZ | X.XX | P1 | % (VOL) | S | C | 44 | 45 |
| OXYGEN CONTENT | ZO | XX.XX | P1 | % (WT) | S | C | 44 | 45 |
| NOx | NOX | XX.X | P1 | % (RED) | | C | 44 | 45 |
| RVP | RVP | XX.XX | PS | PSI | S | | 44 | 45 |
| TOXICS EMISSIONS PERFORMANCE | TOX | XX.X | P1 | % (RED) | S | C | 44 | 45 |
| VOC EMISSIONS PERFORMANCE | VOC | XX.X | P1 | % (RED) | | C | 44 | 45 |
| SULFUR CONTENT | ZS | XXXX | 59 | PPM | | | | |
| API GRAVITY | API | XXX.X | 69 | TEST SPECIFIC SCALE | | | | |
| AROMATICS CONTENT | A4 | XX.X | P1 | % (VOL) | | | | |
| E200, DISTILLATION FRACTION | D7 | XXX.X | P1 | % (VOL) | | | | |
| E300, DISTILLATION FRACTION | D7 | XXX.X | P1 | % (VOL) | | | | |
| ETBE | * 637-92-3 | XXX.XX | P1 | % (VOL) | | | | |
| ETHANOL | * 64-17-5 | XXX.XX | P1 | % (VOL) | | | | |
| EXHAUST BENZENE EMISSIONS | EXH | XXX.XX | ME::: DH:-1 | (MG/ MILE) | | | | |
| METHANOL | * 67-56-1 | XXX.XX | P1 | % (VOL) | | | | |
| MTBE | * 1634-04-4 | XXX.XX | P1 | % (VOL) | | | | |
| OLEFINS CONTENT | OLE | XX.X | P1 | % (VOL) | | | | |
| T50 | T50 | XXX.X | FA | DEG F | | | | |
| T90 | T90 | XXX.X | FA | DEG F | | | | |
| TAME | * 1784-03-8 | XXX.XX | P1 | % (VOL) | | | | |
| T-BUTANOL | *75-65-0 | XXX.XX | P1 | %(VOL) | | | | |
| EXHAUST TOXICS EMISSIONS | ETE | XXX.XX | ME:::D H:-1 | (MG/ MILE) | | | | |
| NOx EMISSIONS | NXE | XXXX.X | ME::: DH:-1 | (MG/ MILE) | | | | |

| PROPERTY | MEA02 | MEA03 | MEA04 | | PID07 | | MEA07 DESIGNATORS | |
|-------------------------------|-------|--------|---------------|---------------|-------|---|-------------------|------------|
| | LQ02* | VALUE | CODE | UM | S | C | AVERAGE | PER GALLON |
| NOx EMISSIONS OXYGEN BLACKOUT | NBO | XXXX.X | ME:: DH:-1 | (MG/ MILE) | | | | |

Properties with codes marked with an asterisk () use Chemical Abstract Service Codes and are to be shown in an LC

Note: The entry for Renewable Oxygenates ("ROX") is no longer represented in this table.

REFGAS EDI TECHNICAL GUIDELINE

A.2 Batch Report Map

863 Report of Test Results

 This Draft Standard for Trial Use contains the format and establishes the data contents of the Report of Test Results Transaction Set (863) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to transmit the results of tests performed to satisfy a specified product or process requirement. This includes, but is not limited to, test data such as inspection data, certification data, and statistical process control measurements.

| | | | | |
|-----------------------------|---------------------------------------|---|------|----|
| ST | Transaction Set Header | M | 1 | |
| BTR | Beginning Segment for Test Result | M | 1 | |
| N/U | NTE Note/Special Instruction | F | 100 | |
| N/U | REF Reference Numbers | O | 12 | |
| | DTM Date/Time Reference | O | 10 | |
| N/U | PID Product/Item Description | O | 200 | |
| N/U | TMD Test Method | O | 1 | |
| N/U | MEA Measurements | O | 20 | |
| --- Loop ID: N1 -----+ | | | | |
| N1 | Name | O | 1 | >1 |
| N/U | N2 Additional Name Information | O | 2 | |
| N/U | N3 Address Information | O | 2 | |
| N/U | N4 Geographic Location | O | 1 | |
| REF | Reference Numbers | O | 12 | |
| --- Loop ID: N1/PER -----+ | | | | |
| PER | Administrative Communications Con | O | 1 | >1 |
| REF | Reference Numbers | O | >1 | |
| -----+ | | | | |
| --- Loop ID: LIN -----+ | | | | |
| LIN | Item Identification | O | 1 | >1 |
| | PID Product/Item Description | O | 1000 | |
| N/U | TMD Test Method | O | 1 | |
| N/U | MEA Measurements | O | 20 | |
| N/U | PSD Physical Sample Description | O | >1 | |
| N/U | SPS Sampling Parameters for Summary S | O | >1 | |
| | QTY Quantity | O | 10 | |
| | DTM Date/Time Reference | O | 10 | |
| N/U | REF Reference Numbers | O | 1000 | |
| --- Loop ID: LIN/N1 -----+ | | | | |
| N/U | N1 Name | O | 1 | 10 |
| N/U | N2 Additional Name Information | O | 2 | |
| N/U | N3 Address Information | O | 2 | |
| N/U | N4 Geographic Location | O | 1 | |
| N/U | REF Reference Numbers | O | 10 | |
| N/U | PER Administrative Communications Con | O | 3 | |
| N/U | QTY Quantity | O | 10 | |
| -----+ | | | | |
| --- Loop ID: LIN/CID -----+ | | | | |
| CID | Characteristic/Class ID | O | 1 | >1 |
| N/U | UIT Unit Detail | O | 1 | |
| N/U | PSD Physical Sample Description | O | >1 | |
| N/U | SPS Sampling Parameters for Summary S | O | >1 | |
| N/U | DTM Date/Time Reference | O | 10 | |

| | | | | | | | |
|------------------------------------|-----|----------------------------|---|----|-----|--|--|
| N/U | REF | Reference Numbers | O | 10 | | | |
| --- Loop ID: LIN/CID/MEA -----+ | | | | | | | |
| | | MEA Measurements | O | 1 | >1 | | |
| N/U | DTM | Date/Time Reference | O | 10 | | | |
| N/U | REF | Reference Numbers | O | 10 | | | |
| --- Loop ID: LIN/CID/MEA/LM -----+ | | | | | | | |
| | | LM Code Source Information | O | 1 | >1 | | |
| | | LQ Industry Code | M | >1 | | | |
| -----+ | | | | | | | |
| --- Loop ID: LIN/CID/STA -----+ | | | | | | | |
| N/U | STA | Statistics | O | 1 | >1 | | |
| N/U | DTM | Date/Time Reference | O | 10 | | | |
| N/U | REF | Reference Numbers | O | 10 | | | |
| --- Loop ID: LIN/CID/STA/LM -----+ | | | | | | | |
| N/U | LM | Code Source Information | O | 1 | >1 | | |
| N/U | LQ | Industry Code | M | >1 | | | |
| -----+ | | | | | | | |
| --- Loop ID: LIN/CID/TMD -----+ | | | | | | | |
| N/U | TMD | Test Method | O | 1 | 100 | | |
| N/U | MEA | Measurements | O | >1 | | | |
| N/U | DTM | Date/Time Reference | O | 10 | | | |
| N/U | REF | Reference Numbers | O | 10 | | | |
| -----+ | | | | | | | |
| --- Loop ID: LIN/CID/TSP -----+ | | | | | | | |
| N/U | TSP | Test Period or Interval | O | 1 | >1 | | |
| N/U | MEA | Measurements | O | >1 | | | |
| N/U | DTM | Date/Time Reference | O | 10 | | | |
| N/U | REF | Reference Numbers | O | 10 | | | |
| --- Loop ID: LIN/CID/TSP/LM -----+ | | | | | | | |
| N/U | LM | Code Source Information | O | 1 | >1 | | |
| N/U | LQ | Industry Code | M | >1 | | | |
| -----+ | | | | | | | |
| N/U | CTT | Transaction Totals | O | 1 | | | |
| | SE | Transaction Set Trailer | M | 1 | | | |

REFGAS EDI TECHNICAL GUIDELINE

SEGMENT: ST Transaction Set Header
LEVEL: Header
LOOP: _____
USAGE: Mandatory
MAX USE: 1
PURPOSE: To indicate the start of a transaction set and to assign a control number
SEMANTIC: 1. The transaction set identifier (ST01) used by the translation routines of the interchange partners to select the appropriate transaction set definition (e.g., 810 selects the invoice transaction set).
>EXAMPLES: 1. ST*863*0001 N/L

DATA ELEMENT SUMMARY -----

| | | | |
|------|-----|---|----------|
| ST01 | 143 | TRANSACTION SET IDENTIFIER CODE | M ID 3/3 |
| | | Code uniquely identifying a Transaction Set. | |
| ST02 | 329 | TRANSACTION SET CONTROL NUMBER | M AN 4/9 |
| | | Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set | |
| > | | Start with 0001 and increment by 1 for each subsequent | |
| > | | transaction set. | |

SEGMENT: BTR Beginning Segment for Test Results
 LEVEL: Header
 LOOP: _____
 USAGE: Mandatory
 MAX USE: 1
 PURPOSE: To indicate the beginning of a test results transaction set.
 SEMANTIC: 1. If BTR01 equals 01, 02, 03, 04, 05, 18 or 19, then BTR06 is required to identify the original test report reference number transmitted.
 2. BTR02 is the date that this transaction set was created by the sending party.
 3. BTR03 is the time that this transaction set was created by the sending party.
 4. BTR05 specifies test results report reference number created by the sending party.
 > NOTES: 1. The EPA for the Reformulated Gasoline and Anti-Dumping Program supports only Original and Re-submission Transaction Set Purposes.
 >
 > 2. BTR07: A data maintenance request was submitted in October 1994 to add Data Element 786, Security Level Code.
 >
 >EXAMPLES: 1. BTR*00*931225*2300*B1*628307**02 N/L
 BTR*15*931225*2300*B1*628307*62503*02 N/L

DATA ELEMENT SUMMARY -----

| | | | |
|-------|-----|--|----------|
| BTR01 | 353 | TRANSACTION SET PURPOSE CODE Code identifying purpose of transaction set. 00 Original 15 Re-Submission | M ID 2/2 |
| BTR02 | 373 | DATE Transaction Set was created. Date (YYMMDD). | M DT 6/6 |
| BTR03 | 337 | TIME Transaction Set was created. 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) | O TM 4/8 |
| > | | Required | |
| BTR04 | 755 | REPORT TYPE CODE Code indicating the title or contents of a document, report or supporting item | O ID 2/2 |
| > | | Required | |
| > | | B1 - Batch Report | |
| BTR05 | 127 | REFERENCE NUMBER Reference number or identification number as defined for a particular Transaction Set, or as specified by the Reference Number Qualifier. | O AN 1/9 |
| > | | Required | |
| > | | Document tracking number assigned by the sender. | |
| BTR06 | 127 | REFERENCE NUMBER Reference number or identification number as defined for a particular Transaction Set, or as specified by the Reference Number Qualifier. | O AN 1/9 |
| > | | Previous document number is required when the document is a | |

REFGAS EDI TECHNICAL GUIDELINE

> Re-submission (i.e. BTR01 = 15).
BTR07 786 SECURITY LEVEL CODE O ID 2/2
Code indicating the level of confidentiality assigned by the
sender to the information following. A value of "02" indicates >
company confidentiality.

SEGMENT: DTM Date/Time Reference
 LEVEL: Header
 LOOP: _____
 > USAGE: Optional NOTE: Required
 MAX USE: 10
 PURPOSE: To specify pertinent dates and times
 SYNTAX: 1. R020306--At least one of DTM02, DTM03 or DTM06 is required.
 2. P0607--If either DTM06 or DTM07 is present, then the other
 is required.
 > NOTES: 1. One occurrence is required to report the date the report
 > was certified.
 >EXAMPLES: 1. DTM*458*931223 N/L

DATA ELEMENT SUMMARY -----

| | | | |
|-------|------|--|-----------|
| DTM01 | 374 | DATE/TIME QUALIFIER Code specifying type of date or time, or both date and time. 458 Certification | M ID 3/3 |
| DTM02 | 373 | DATE Date (YYMMDD). > Required | X DT 6/6 |
| DTM03 | 337 | TIME 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) > Not Used | X TM 4/8 |
| DTM04 | 623 | TIME CODE Code identifying the time. In accordance with International Standards Organization standard 8601, time can be specified by a + or - and an indication in hours in relation to Universal Time Coordinate (UTC) time. Since + is a restricted character, + and - are substituted by P and M in the codes that follow. > Not Used | O ID 2/2 |
| DTM05 | 624 | CENTURY The first two characters in the designation of the year (CCYY). > Not Used | O N0 2/2 |
| DTM06 | 1250 | DATE TIME PERIOD FORMAT QUALIFIER Code indicating the date format, time format, or date and time format. > Not Used | X ID 2/3 |
| DTM07 | 1251 | DATE TIME PERIOD Expression of a date, a time, or range of dates, times or dates and times. > Not Used | X AN 1/35 |

REFGAS EDI TECHNICAL GUIDELINE

SEGMENT: N1 Name
LEVEL: Header
LOOP: N1 Repeat: >1
> USAGE: Optional NOTE: Required
MAX USE: 1
PURPOSE: To identify a party by type of organization, name and code
SYNTAX: 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: A. 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.
B. N105 and N106 further define the type of entity in N101.
> NOTES: 1. Two occurrences are required. One identifies the company

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the
report
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other
identi
fies
the

> EPA office receiving the report. The company is identified by >

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> The identification of the EPA Office is a DUNS Number and
 > requires an N103 qualifier of 1.
 >EXAMPLES: 1. N1*PV*NAME*EP*5432 N/L
 N1*ZD**1*873186902 N/L

DATA ELEMENT SUMMARY -----

N101 98 ENTITY IDENTIFIER CODE M ID 2/2
 Code identifying an organizational entity, a physical location,
 or an individual
 PV Party performing certification
 > Used to identify the certifying party (submitter).
 ZD Party to Receive Reports
 > Used to identify the EPA Office.

N102 93 NAME X AN 1/35
 Free-form name.
 Required.

N103 66 IDENTIFICATION CODE QUALIFIER X ID 1/2
 Code designating the system/method of code structure used for
 Identification Code (67).
 > Required
 1 D-U-N-S Number, Dun & Bradstreet
 EP U.S. Environmental Protection Agency (EPA)

N104 67 IDENTIFICATION CODE X AN 2/20
 Code identifying a party or other code.
 > Required
 > EPA assigned four digit ID for the company certifying and
 > submitting the report. This will be either the company
 > producing or importing the batch or the independent lab.
 > 873186902 - EPA Office DUNS Number.

REFGAS EDI TECHNICAL GUIDELINE

N105 706 ENTITY RELATIONSHIP CODE O ID 2/2
Code describing entity relationship.
> Not Used

N106 98 ENTITY IDENTIFIER CODE O ID 2/2
Code identifying an organizational entity, a physical location,
or an individual
> Not Used

```

SEGMENT: REF Reference Numbers
  LEVEL: Header
  LOOP: N1
>  USAGE: Optional NOTE: Required
  MAX USE: 12
  PURPOSE: To specify identifying numbers.
  SYNTAX: 1. R0203--At least one of REF02 or REF03 is required.
>  NOTES: 1. This REF Segment at REF02 communicates the EPA
>          assigned PIN ID for the certifier's (submitters) company.
>EXAMPLES: 1. REF*4A*1234 N/L
  
```

DATA ELEMENT SUMMARY -----

```

REF01 128 REFERENCE NUMBER QUALIFIER M ID 2/2
          Code qualifying the Reference Number.
          4A Personal Identification Number (PIN)
REF02 127 REFERENCE NUMBER X AN 1/30
          Reference number or identification number as defined for a
          particular Transaction Set, or as specified by the Reference
          Number Qualifier.
>          Required
>          Code assigned by the EPA to the corporation
>          This REF segment for Corporate PIN should immediately follow the
          N1*PV segment.
REF03 352 DESCRIPTION X AN 1/80
          A free-form description to clarify the related data elements
          and their content.
>          Not Used
  
```

REFGAS EDI TECHNICAL GUIDELINE

SEGMENT: PER Administrative Communications Contact
LEVEL: Header
LOOP: N1/PER Repeat: >1
> USAGE: Optional NOTE: Required
MAX USE: 1
PURPOSE: To identify a person or office to whom administrative communications should be directed
SYNTAX: 1. P0304--If either PER03 or PER04 is present, then the other is required.
2. P0506--If either PER05 or PER06 is present, then the other is required.
> NOTES: 1. Two occurrences are required.
> One identifies the name and title (via PER01) of the responsible corporate officer certifying the report. This is shown in the example starting PER*CE.
> The other identifies the name and telephone number and fax number of an authorized contact (When the PER01 is AA).
>EXAMPLES: 1. PER*AA*G.D. MARSH*TE*610/452-1234*FX*610/453-5432 N/L
PER*CE*PETER R. JONES*TE*610/452-1234 N/L

DATA ELEMENT SUMMARY -----

| | | | |
|-------|-----|--|-----------|
| PER01 | 366 | CONTACT FUNCTION CODE | M ID 2/2 |
| | | Code identifying the major duty or responsibility of the person or group named. | |
| > | | Select the appropriate title from Data Element 366 Code List. | |
| > | | If an appropriate title is not found use CE, Certifier. | |
| | | AA Authorized Representative | |
| | | CE Certifier | |
| PER02 | 93 | NAME | O AN 1/35 |
| | | Free-form name. | |
| > | | Required | |
| PER03 | 365 | COMMUNICATION NUMBER QUALIFIER | X ID 2/2 |
| | | Code identifying the type of communication number. | |
| > | | Required when PER01 = AA | |
| | | TE Telephone | |
| PER04 | 364 | COMMUNICATION NUMBER | X AN 1/12 |
| | | Complete communications number including country or area code when applicable. | |
| > | | Required when PER01 = AA | |
| PER05 | 365 | COMMUNICATION NUMBER QUALIFIER | X ID 2/2 |
| | | Code identifying the type of communication number. | |
| > | | Recommended | |
| | | FX Facsimile | |
| PER06 | 364 | COMMUNICATION NUMBER | X AN 1/12 |
| | | Complete communications number including country or area code when applicable. | |
| > | | Recommended | |
| > | | The PER*AA segment should immediately follow the REF segment for the Corporate PIN, which follows the N1*PV segment. | |
| > | | The PER*CE segment should follow the PER*AA segment. | |

SEGMENT: REF Reference Numbers
LEVEL: Header
LOOP: N1/PER
> USAGE: Optional NOTE: Required
MAX USE: >1
PURPOSE: To specify identifying numbers.
SYNTAX: 1. R0203--At least one of REF02 or REF03 is required.
> NOTES: 1. This REF Segment communicates the EPA assigned PIN ID
for the responsible corporate officer
> certifying this document.
>EXAMPLES: 1. REF*4A*A534 N/L

DATA ELEMENT SUMMARY -----

REF01 128 REFERENCE NUMBER QUALIFIER M ID 2/2
Code qualifying the Reference Number.
> 4A Personal ID Number (responsible corporate officer)
REF02 127 REFERENCE NUMBER X AN 1/9
Reference number or identification number as defined for a
particular Transaction Set, or as specified by the Reference
Number Qualifier.
> Required
> This REF segment for individual PIN should immediately follow the PER*CE
segment.
REF03 352 DESCRIPTION X AN 1/80
A free-form description to clarify the related data elements
and their content.
> Not Used

REFGAS EDI TECHNICAL GUIDELINE

SEGMENT: LIN Item Identification
LEVEL: Detail
LOOP: LIN Repeat: >1
> USAGE: Optional NOTE: Required
MAX USE: 1
PURPOSE: To specify basic item identification data.
SYNTAX: 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.
SEMANTIC: 1. LIN01 is the line item identification
COMMENTS: A. See the Data Dictionary for a complete list of ID's.
B. LIN02 through LIN31 provide for fifteen (15) different product/service ID's for each item. For Example: Case, Color, Drawing No., UPC No., ISBN No., Model No., SKU.
> NOTES: 1. Only one pair of 234/235 data elements is used.
>EXAMPLES: 1. LIN**B8*CCCCFFFFFRYNNNNNN N/L

DATA ELEMENT SUMMARY -----

| | | | |
|-------|-----|--|-----------|
| LIN01 | 350 | ASSIGNED IDENTIFICATION | O AN 1/11 |
| | | Alphanumeric characters assigned for differentiation within a transaction set. | |
| > | | Not Used | |
| LIN02 | 235 | PRODUCT/SERVICE ID QUALIFIER | M ID 2/2 |
| | | Code identifying the type/source of the descriptive number used in Product/Service ID (234). | |
| | | B8 Batch Number | |
| LIN03 | 234 | PRODUCT/SERVICE ID | M AN 1/30 |
| | | Identifying number for a product or service. | |
| > | | The batch Identification occurs as the format | |
| > | | CCCCFFFFFRYNNNNNN. | |

- > CCCC = The EPA assigned four digit ID for the company
- > producing or importing the batch.
- > FFFFFF = The EPA assigned five digit ID for the facility
- > producing or importing the batch.
- > RY = Reporting Year. The calendar year in which the batch was
- > produced or imported.
- > NNNNNN = Batch Number. The facility-assigned six digit number
- > identifying the batch this report describes.

REFGAS EDI TECHNICAL GUIDELINE

SEGMENT: PID Product/Item Description
LEVEL: Detail
LOOP: LIN
> USAGE: Optional NOTE: Required
MAX USE: 1000
PURPOSE: To describe a product or process in coded or free-form format
SYNTAX: 1. C0403--If PID04 is present, then PID03 is required.
2. R0405--At least one of PID04 or PID05 is required.
3. C0703--If PID07 is present, then PID03 is required.
4. C0803--If PID08 is present, then PID03 is required.
SEMANTIC: 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. A ``N'' indicates it does
not apply. Any other value is indeterminate.
COMMENTS: A. If PID01 = ``F'', then PID05 is used. If PID01 = ``S'',
then PID04 is used. If PID01 = ``X'', then both PID04 and
PID05 are used.
B. Use PID06 when necessary to refer to the product surface or
layer being described in the segment.
C. PID07 specifies the individual code list of the agency
specified in PID03.
>EXAMPLES: 1. PID*S*08*EP**RG****N N/L
PID*S*08*EP**RT****Y N/L
PID*S*38*EP*PR N/L
PID*S*VC*EP*VN N/L

DATA ELEMENT SUMMARY -----

PID01 349 ITEM DESCRIPTION TYPE M ID 1/1
Code indicating the format of a description.
S Structured (From Industry Code List)

PID02 750 PRODUCT/PROCESS CHARACTERISTIC CODE O ID 2/3
Code identifying the general class of a product or process
characteristic
> Required
> Codes 08 and CM are required.
> Code 38 is required when PID02 = 08 and PID04 = CG or RG.
> Codes PG and VC are required for Reformulated Gasoline and
> RBOB only.
08 Product
38 Grade
CM Compliance Method
PG Program
VC Volatile Organic Compound Control

PID03 559 AGENCY QUALIFIER CODE X ID 2/2
Code identifying the agency assigning the code values.
> Required
EP United States Environmental Protection Agency (EPA)

PID04 751 PRODUCT DESCRIPTION CODE X AN 1/12
A code from an industry code list which provides specific data
about a product characteristic.
> Required

> See EPA maintained Reformulated Gasoline and Anti-dumping
> Program code list.
PID05 352 DESCRIPTION X AN 1/80
A free-form description to clarify the related data elements
and their content.
> Not Used

REFGAS EDI TECHNICAL GUIDELINE

PID06 752 SURFACE/LAYER/POSITION CODE O ID 2/2
Code indicating the product surface, layer or position that is
being described.
> Not Used

PID07 822 SOURCE SUBQUALIFIER O AN 1/15
A reference that indicates the table or text maintained by the
Source Qualifier.
> Not Used

PID08 1073 YES/NO CONDITION OR RESPONSE CODE O ID 1/1
Code indicating a Yes or No condition or response.
> Required when PID02 = 08, and PID04 contains a code for
> Reformulated Gasoline or any of the RBOB codes.
N No
> Not waived from independent lab testing.
Y Yes
> Waived from independent lab testing.

SEGMENT: QTY Quantity
LEVEL: Detail
LOOP: LIN
> USAGE: Optional NOTE: Required
MAX USE: 10
PURPOSE: To specify quantity information.
>EXAMPLES: 1. QTY*01*100000*GA N/L

DATA ELEMENT SUMMARY -----

| | | | |
|-------|-----|---|----------|
| QTY01 | 673 | QUANTITY QUALIFIER | M ID 2/2 |
| | | Code specifying the type of quantity. | |
| | | 01 Discrete Quantity | |
| QTY02 | 380 | QUANTITY | M R 1/15 |
| | | Numeric value of quantity. | |
| QTY03 | 355 | UNIT OR BASIS FOR MEASUREMENT CODE | O ID 2/2 |
| | | Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken | |
| > | | Required | |
| | | GA Gallon | |

REFGAS EDI TECHNICAL GUIDELINE

SEGMENT: DTM Date/Time Reference
LEVEL: Detail
LOOP: LIN
> USAGE: Optional NOTE: Required
MAX USE: 10
PURPOSE: To specify pertinent dates and times
SYNTAX: 1. R020306--At least one of DTM02, DTM03 or DTM06 is required.
2. P0607--If either DTM06 or DTM07 is present, then the other
is required.
>EXAMPLES: 1. DTM*405*931222 N/L

DATA ELEMENT SUMMARY -----

DTM01 374 DATE/TIME QUALIFIER M ID 3/3
Code specifying type of date or time, or both date and time.
405 Production

DTM02 373 DATE X DT 6/6
Date (YYMMDD).
> Used to indicate the END DATE the volume of gasoline was
> produced.

DTM03 337 TIME X TM 4/8
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)
> Not Used

DTM04 623 TIME CODE O ID 2/2
Code identifying the time. In accordance with International
Standards Organization standard 8601, time can be specified by
a + or - and an indication in hours in relation to Universal
Time Coordinate (UTC) time. Since + is a restricted character,
+ and - are substituted by P and M in the codes that follow.
> Not Used

DTM05 624 CENTURY O NO 2/2
The first two characters in the designation of the year (CCYY).
> Not Used

DTM06 1250 DATE TIME PERIOD FORMAT QUALIFIER X ID 2/3
Code indicating the date format, time format, or date and time
format.
> Not Used

DTM07 1251 DATE TIME PERIOD X AN 1/35
Expression of a date, a time, or range of dates, times or dates
and times.
> Not Used

SEGMENT: CID Characteristic/Class ID
 LEVEL: Detail
 LOOP: LIN/CID Repeat: >1
 > USAGE: Optional NOTE: Required
 MAX USE: 1
 PURPOSE: To specify the general class or specific characteristic upon which test results are being reported or are to be taken
 SYNTAX: 1. R01020405--At least one of CID01, CID02, CID04 or CID05 is required.
 2. P0304--If either CID03 or CID04 is present, then the other is required.
 3. C060304--If CID06 is present, then CID03 and CID04 are required.
 4. L070405--If CID07 is present, then at least one of CID04 or CID05 are required.
 COMMENTS: A. CID06 specifies the individual code list of the agency specified in CID03.
 B. CID07 refers to whether or not the characteristic identified in CID04 or CID05 or both is affected by the product change. If it is affected, the value is ``Y''. A value of ``N'' is used when it is known that it will not be affected. Any other value indicates it is indeterminate.
 >EXAMPLES: 1. CID**68 N/L
 CID**D7 N/L

DATA ELEMENT SUMMARY -----

| | | |
|-----------|---|-----------|
| CID01 738 | MEASUREMENT QUALIFIER Code identifying a specific product or process characteristic to which a measurement applies > If CID01 is used, CID02 should be null. > D7 Distillation Fraction > Required when reporting the results of properties E200 and E300. | X ID 1/3 |
| CID02 750 | PRODUCT/PROCESS CHARACTERISTIC CODE Code identifying the general class of a product or process characteristic > If CID02 is used, CID01 should be null. > 68 Chemistry > Required when reporting Gasoline Properties (other than E200 and E300) and Emissions Performance Calculations. | X ID 2/3 |
| CID03 559 | AGENCY QUALIFIER CODE Code identifying the agency assigning the code values. > Not Used | X ID 2/2 |
| CID04 751 | PRODUCT DESCRIPTION CODE A code from an industry code list which provides specific data about a product characteristic. > Not Used | X AN 1/12 |
| CID05 352 | DESCRIPTION A free-form description to clarify the related data elements and their content. > Not Used | X AN 1/80 |
| CID06 822 | SOURCE SUBQUALIFIER A reference that indicates the table or text maintained by the | O AN 1/15 |

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Source Qualifier.
> Not Used
CID07 1073 YES/NO CONDITION OR RESPONSE CODE O ID 1/1
Code indicating a Yes or No condition or response.
> Not Used

SEGMENT: MEA Measurements
 LEVEL: Detail
 LOOP: LIN/CID/MEA Repeat: >1
 > USAGE: Optional NOTE: Required
 MAX USE: 1
 PURPOSE: To specify physical measurements or counts, including dimensions, tolerances, variances, and weights<R> <R> (See Figures Appendix for example of use of C001.)
 SYNTAX: 1. R03050608--At least one of MEA03, MEA05, MEA06 or MEA08 is required.
 2. C0504--If MEA05 is present, then MEA04 is required.
 3. C0604--If MEA06 is present, then MEA04 is required.
 4. L07030506--If MEA07 is present, then at least one of MEA03, MEA05 or MEA06 are required.
 5. E0803--Only one of MEA08 or MEA03 may be present.
 SEMANTIC: 1. MEA04 defines the unit of measure for MEA03, MEA05, and MEA06.
 COMMENTS: A. When citing dimensional tolerances, any measurement requiring a sign (+ or -), or any measurement where a positive (+) value cannot be assumed use MEA05 as the negative (-) value and MEA06 as the positive (+) value.
 >EXAMPLES: 1. MEA*EN*D7*200*FA N/L
 MEA*TR*D7*30.5*P1 N/L
 MEA*TR*ZBZ*1.99*P1***44 N/L
 MEA*TR*ZO*2.00*P1 N/L
 MEA*TR*EXH*.35*ME:::DH:-1 N/L

DATA ELEMENT SUMMARY -----

MEA01 737 MEASUREMENT REFERENCE ID CODE O ID 2/2
 Code identifying the broad category to which a measurement applies
 > Required
 > EN Environmental Conditions
 > Required when reporting the results of E200 and E300
 > (Distillation Fraction) to identify the temperatures at
 > which the test results obtained.
 TR Test Results
 MEA02 738 MEASUREMENT QUALIFIER O ID 1/3
 Code identifying a specific product or process characteristic to which a measurement applies
 > Required when reporting the following Gasoline Properties and
 > Emissions Performance Calculations.
 > Not Required when reporting Gasoline Properties for ETBE
 > (Ethyl t-Butyl Ether), Ethanol, MTBE (Methyl t-Butyl Ether),
 > Methanol, t-Butanol, or TAME (t-Amyl Methyl Ether) as X12
 > Codes are not available. Chemical Abstract Services codes are
 > used in the LM/LQ Loop following this MEA Segment.
 > ~~ROX Oxygen Content from Renewable Oxygenates (NOTE: ROX is no~~
 > ~~longer represented.)~~
 > A4 Aromatics
 > API API Gravity
 > D7 Distillation Fraction
 > EXH Exhaust Benzene Emissions

NOX NOx Emissions Performance
OLE Olefins
RVP Reid Vapor Pressure
T50 T50
T90 T90
TOX Toxics Emissions Performance
VOC VOC Emissions Performance
ZBZ Benzene
ZO Oxygen
ZS Sulphur


```

MEA03 739 MEASUREMENT VALUE X R 1/10
    The value of the measurement.
> Required
MEA04 C001 COMPOSITE UNIT OF MEASURE R
    To identify a composite unit of measure<R> <R> (See Figures
    Appendix for examples of use.)
> Refer to the EPA maintained Reformulated Gasoline and
> Anti-dumping Program MEA Matrix Chart for proper code values.
> Required
    MEA04-1 355 Unit or Basis for Measurement Code M 2/2
        Code specifying the units in which a value is
        being expressed, or manner in which a
        measurement has been taken
            59 Parts Per Million (for sulfur)
            69 Test Specific Scale (for API)
                FA Fahrenheit (for T50 and T90)
                ME Milligram (for Exh.)
    P1 Percent (for oxygen, etc.) PS
    Pounds per Sq. Inch (for RVP) MEA04-2 1018 Exponent
        O 1/15
        Power to which a unit is raised.
> Not Used
    MEA04-3 649 Multiplier O 1/10
        Value to be used as a multiplier to obtain a new
        value
> Not Used
    MEA04-4 355 Unit or Basis for Measurement Code O 2/2
        Code specifying the units in which a value is
        being expressed, or manner in which a
        measurement has been taken
            DH Miles
> Required when MEA04-1 equals ME (for exhaust)
    MEA04-5 1018 Exponent O 1/15
        Power to which a unit is raised.
> Required to be -1 when reporting Milligrams per Mile
    MEA04-6 649 Multiplier O 1/10
        Value to be used as a multiplier to obtain a new
        value
> Not Used
    MEA04-7 355 Unit or Basis for Measurement Code O 2/2
        Code specifying the units in which a value is
        being expressed, or manner in which a
        measurement has been taken
> Not Used
    MEA04-8 1018 Exponent O 1/15
        Power to which a unit is raised.
> Not Used
    MEA04-9 649 Multiplier O 1/10
        Value to be used as a multiplier to obtain a new
        value
> Not Used
    MEA04-10 355 Unit or Basis for Measurement Code O 2/2
        Code specifying the units in which a value is
        being expressed, or manner in which a

```

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measurement has been taken
> Not Used
MEA04-11 1018 Exponent O 1/15
Power to which a unit is raised.
> Not Used
MEA04-12 649 Multiplier O 1/10
Value to be used as a multiplier to obtain a new
value
> Not Used

```

    MEA04-13  355 Unit or Basis for Measurement Code    O 2/2
               Code specifying the units in which a value is
               being expressed, or manner in which a
               measurement has been taken
    >
               Not Used
    MEA04-14 1018 Exponent                               O 1/15
               Power to which a unit is raised.
    >
               Not Used
    MEA04-15  649 Multiplier                             O 1/10
               Value to be used as a multiplier to obtain a new
               value
    >
               Not Used
    MEA05 740 RANGE MINIMUM                               X R 1/10
               The value specifying the minimum of the measurement range.
    >
               Not Used
    MEA06 741 RANGE MAXIMUM                               X R 1/10
               The value specifying the maximum of the measurement range.
    >
               Not Used
    MEA07 935 MEASUREMENT SIGNIFICANCE CODE              O ID 2/2
               Code used to benchmark, qualify or further define a measurement
               value.
               44 Average
               45 Per Gallon
    MEA08 936 MEASUREMENT ATTRIBUTE CODE                 X ID 2/2
               Code used to express an attribute response when a numeric
               measurement value cannot be determined.
    >
               Not Used
    MEA09 752 SURFACE/LAYER/POSITION CODE                O ID 2/2
               Code indicating the product surface, layer or position that is
               being described.
    >
               Not Used
    MEA10 1373 MEASUREMENT METHOD OR DEVICE              X ID 2/4
               The method or device used to record the measurement
    >
               Not Used

```

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SEGMENT: LM Code Source Information
LEVEL: Detail
LOOP: LIN/CID/MEA/LM Repeat: >1
USAGE: Optional NOTE: Required
MAX USE: 1
PURPOSE: To transmit standard code list identification information
COMMENTS: A. LM02 identifies the applicable industry code list source information.
> NOTES: 1. Required when using Chemical Abstract Services (CAS) codes to

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>EXAMPLES: 1. LM*CA N/L

DATA ELEMENT SUMMARY -----

| | | | |
|------|-----|---|-----------|
| LM01 | 559 | AGENCY QUALIFIER CODE | M ID 2/2 |
| | | Code identifying the agency assigning the code values. CA Chemical Abstract Services (CAS) | |
| LM02 | 822 | SOURCE SUBQUALIFIER | O AN 1/15 |
| | | A reference that indicates the table or text maintained by the Source Qualifier. | |
| > | | Not Used | |

SEGMENT: LQ Industry Code
LEVEL: Detail
LOOP: LIN/CID/MEA/LM
USAGE: Mandatory
MAX USE: >1
PURPOSE: Code to transmit standard industry codes
SYNTAX: 1. C0102--If LQ01 is present, then LQ02 is required.
>EXAMPLES: 1. LQ**64-17-5 N/L

DATA ELEMENT SUMMARY -----

LQ01 1270 CODE LIST QUALIFIER CODE O ID 1/3
Code identifying a specific industry code list
> Not Used
LQ02 1271 INDUSTRY CODE X AN 1/20
Code indicating a code from a specific industry code list
> Required to report the following properties. The codes are
> Chemical Abstract Service Codes and must be communicated with
> the dashes in the proper location.
> 637-92-3 - ETBE (Ethyl t-Butyl Ether)
> 64-17-5 - Ethanol
> 1634-04-4 - MTBE (Methyl t-Butyl Ether)
> 67-56-1 - Methanol
> 75-65-0 - t-Butanol
> 1784-03-8 - TAME (t-Amyl Methyl Ether)

REFGAS EDI TECHNICAL GUIDELINE

SEGMENT: SE Transaction Set Trailer
LEVEL: Summary
LOOP: _____
USAGE: Mandatory
MAX USE: 1
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).
COMMENTS: A. SE is the last segment of each transaction set.
>EXAMPLES: 1. SE*59*0001 N/L

DATA ELEMENT SUMMARY -----

| | | | |
|------|-----|---|-----------|
| SE01 | 96 | NUMBER OF INCLUDED SEGMENTS | M NO 1/10 |
| | | Total number of segments included in a transaction set including ST and SE segments. | |
| SE02 | 329 | TRANSACTION SET CONTROL NUMBER | M AN 4/9 |
| | | Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set | |
| > | | Must be the same value as ST02. | |

A.3 Sample Batch Report Transmission

```
ST*863*0001  N/L
BTR*00*931225*2300*B1*628307**02  N/L
DTM*458*931223  N/L
N1*PV*NAME*EP*4321  N/L
REF*4A*1234  N/L
PER*AA*G.D.MARSH*TE*610/452-1234*FX*610/453-5432  N/L
PER*CE*PETER R JONES*TE*343/919-4301  N/L
REF*4A*A534*  N/L
N1*ZD**1*873186902  N/L
LIN**B8*CCCCFFFFFRYNNNNNNN  N/L
PID*S*08*EP*08***N  N/L
PID*S*38*EP*PR  N/L
PID*S*PG*EP*OP  N/L
PID*S*VC*EP*VN  N/L
PID*S*CM*EP*C  N/L
QTY*01*1000000*GA  N/L
DTM*405*931222  N/L
CID**68  N/L
MEA*TR*ZO*2.00*P1***44  N/L
MEA*TR*API*76*69  N/L
MEA*TR**10.25*P1  N/L
LM*CA  N/L
LQ**64-17-5  N/L
CID*D7  N/L
MEA*EN*D7*200*FA  N/L
MEA*TR*D7*13.3*P1  N/L
SE*27*0001  N/L
```

Note: This sample transmission does not contain all of the properties and performance calculations required in a Batch Report.

A.4 Batch Report Detail Map

TABLE 1

| POS | SEGMENT/ELEMENT INFORMATION | | |
|------------|---|---|--|
| DE# | | | |
| 010 | ST*863*0001 N/L | | |
| | Transaction Set Header | | |
| 143 | ST01 863 | Transaction Set ID Code. 863 - Report of Test Results | |
| 329 | ST02 00001 | Incremental Transaction Set Control Number. | |
| 020 | BTR*00*931225*2300*B1*628307 N/L | | |
| | Beginning Segment for Test Results | | |
| 353 | BTR01 00 | Transaction Set Purpose . 00 - Original 15 - Resubmission | |
| 373 | BTR02 931225 | Date the transaction was created - December 25, 1993. | |
| 337 | BTR03 2300 | Time the transaction was created - 11:00 PM. | |
| 755 | BTR04 B1 | Report Type Code. B1 - Batch Report | |
| 127 | BTR05 628307 | Sender's Own Tracking Number. (Optional) | |
| 127 | BTR06 | Previous ST02 when the report is a Resubmission. i.e when BTR01 equals 15. | |
| 786 | BTR07 | Optional Security Code. Per Sender's Discretion. <u>"02" indicates company confidential information.</u> | |
| 050 | DTM*458*931223 N/L | | |
| | Date/Time Reference | | |
| 374 | DTM01 458 | Date Qualifier. 458 - Certification | |
| 373 | DTM02 931223 | Date the Responsible Corporate Officer certified this Batch Report - December 23, 1993. | |
| 080 | N1*PV*NAME*EP*4321 N/L | | |
| | Name | | |
| 98 | N101 PV | Entity Identifier Code. PV - Party Performing Certification | |
| 93 | N102 NAME | Identification Code Qualifier Sender's Company Name | |
| 66 | N103 EP | Identification Code Qualifier. EP - EPA | |

- 67 N104 4321 ID# assigned by the EPA. It is the 4 digit Company ID number assigned at Registration.
- 120 REF*4A*1234 N/L**
Reference Numbers
- 128 REF01 4A Reference Number Qualifier.
 4A - Personal Identification Number
- 127 REF02 1234 PIN assigned by the EPA to the corporation responsible for the reported data.
- 130 PER*AA*G.D.MARSH*TE*610/452-1234*FX*610/453-5432 N/L**
Administrative Communications Contact
- 366 PER01 AA Contact Function Code.
 AA - Authorized Representative
- 93 PER02 G.D.MARSH Name of the person submitting the report.
- 365 PER03 TE Communication Number Qualifier.
 TE - Telephone
- 364 PER04 610/.... Telephone Number - 610/452-1234
- 365 PER05 FX Communication Number Qualifier.
 FX - Facisimile
- 364 PER06 610/.... Facisimile Number - 610/453-5432
- 130 PER*CE*PETER R JONES N/L**
Administrative Communications Contact
- 366 PER01 CE Contact Function Code.
 CE - Certifier
 See DE 366 for choices. Too many to list here.
- 93 PER02 Peter R Jones Name.
- 140 REF*4A*A534 N/L**
Reference Numbers
- 128 REF01 4A Reference Number Qualifier.
 4A - Personal Identification Number
- 127 REF02 A534 PIN assigned by the EPA to the individual responsible for the reported data.
- 080 N1*ZD**1*873186902 N/L**
Name
- 98 N101 ZD Entity Identification.
 ZD - Party to Receive Reports.
- 66 N103 1 Identification Code Qualifier.

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1 - D-U-N-S Number, Dun & Bradstreet.

67 N104 873186902

EPA FOSD Office DUNS Number

TABLE 2

POS SEGMENT/ELEMENT INFORMATION
DE#

010 LINB8*CCCCFFFFFFRYNNNNNN N/L
Item Identification**

235 LIN02 B8 Product/Service Qualifier. B8 -
Batch
Number

234 LIN03 CCCCCFFFFFFRYNNNNNN Identification of the volume of gasoline being reported.

CCCC - Company Id
FFFFF - Facility Id.
RY - Reporting Year
NNNNNN - Batch Sequential Number
[Part 2.0 of bubble report form.]

020 PID*S*08*EP*XX*N N/L
Product/Item Description**

349 PID01 S Item Description Type.
S - Structured (code from industry list) code

750 PID02 08 Product/Process Characteristic Code.
08 - Product

559 PID03 EP Agency Qualifier Code.
EP - U.S. Environmental Protection Agency

751 PID04 XX Product Description Code.
Select one of the following:
CB - Conventional Blendstock
CG - Conventional Gasoline

GT - GTAB-Gasoline treated as Blendstock

RO - RBOB - Any Oxygenate
RR - RBOB - Any Renewable Oxygenate
RE - RBOB - Ethers Only
RN - RBOB - Non-VOC Controlled
Renewable Ether Only
RS - RBOB - Refiner Specified
RT - RBOB - Renewable Ether Only
RG - Reformulated Gasoline
[Part 5.0 of bubble report form.]

1078 PID08 N Yes/No Condition Code.
For Reformulated Gasoline & RBOB only, use this position to indicate whether Independent Laboratory Testing is waived.

Y - Yes

N - No

[Part 7.1 of bubble report form.]

020 PID*S*38*EP*XX N/L
Product/Item Description

349 PID01 S Item Description Type.
 S - Structured (code from industry code
 list)

750 PID02 38 Product/Process Characteristic Code.
 38 - Grade.

559 PID03 EP Agency Qualifier Code.
 EP - U.S. Environmental Protection Agency

751 PID04 XX Product Description Code.
 Select one of the following:
 RG - Regular
 MG - Mid-Grade
 PR - Premium
 [Part 6.0 of bubble report form.]

020 PID*S*PG*EP*XX N/L
Product/Item Description

349 PID01 S Item Description Type.
 S - Structured (code from industry code
 list)

750 PID02 PG Product/Process Characteristic Code.
 PG - Program

559 PID03 EP Agency Qualifier Code.
 EP - U.S. Environmental Protection Agency

751 PID04 XX Product Description Code.
 Select one of the following
 OP - Oxygen Program (OPRG)
 NP - Non-Oxygen Program (non-OPRG)
 [Part 7.2 of bubble report form.]

020 PID*S*VC*EP*XX N/L
Product/Item Description

349 PID01 S Item Description Type.
 S - Structured (code from industry
 code list).

750 PID02 VC Product/Process Characteristic Code.
 VC - VOC Control

559 PID03 EP Agency Qualifier Code.
 EP - U.S. Environmental Protection Agency

751 PID04 XX Product Description Code.
 Select one of the following
 V1 - VOC - Control Region 1
 V2 - VOC - Control Region 2
 VN - Not VOC Controlled

[Part 7.3 of bubble report form.]

| | | | | |
|------------|---------------------------------|------------|--|---------------------------------|
| 020 | PID*S*CM*EP*XX | N/L | | |
| | Product/Item Description | | | |
| 349 | PID01 | S | Item Description Type. S - Structured (code from industry list). | code |
| 750 | PID02 | CM | Product/Process Characteristic Code. CM - Compliance Method | |
| 559 | PID03 | EP | Agency Qualifier Code. EP - U.S. Environmental Protection | Agency |
| 751 | PID04 | XX | Product Description Code. Select one of the following: C - Complex Model S - Simple Model AS - Alternative Simple Model [For EDI reports only.] | |
| > | | | | |
| 034 | QTY*01*1000000*GA | N/L | | |
| | Quantity | | | |
| 673 | QTY01 | 01 | Quantity Qualifier. 01 - Discrete Quantity | |
| 380 | QTY02 | 1000000 | Quantity. | |
| 355 | QTY03 | GA | Unit or Basis for Measurement Code. GA - Gallon [Part 3.0 of bubble report form.] | |
| 050 | DTM*405*931222 | N/L | | |
| | Date/Time Reference | | | |
| 374 | DTM01 | 405 | | Date/T ime Qualif ier. |
| | | | 405 - Production | |
| 373 | DTM02 | 931222 | End Date the volume of gasoline was produced - December 22, 1993. [Part 4.0 of bubble report form.] | |
| 060 | CID**68 | N/L | | |
| | Characteristic/Class ID | | | |
| 750 | CID02 | 68 | Product/Process Characteristic Code. 68 - Chemistry | |

NOTE:- The MEA Segment and the LM/LQ Segment Loop when required, are to be repeated for each property to be reported. A measurement segment matrix chart is provided for identification of precision, units of measure and usage.

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One occurrence of an MEA Segment is required when reporting each of the following properties. The codes listed below are the ASC X12 codes for MEA03, DE 738, Measurement Qualifier, that are to be used for those properties.

API - API Gravity
A4 - Aromatics
ZBZ - Benzene
EXH - Exhaust Benzene Emissions
NOX - NOx Emissions Performance
OLE - Olefins
ZO - Oxygen
> ~~ROX - Oxygen from a Renewable Oxygenate~~
RVP - Reid Vapor Pressure
ZS - Sulfur
T50 - T50
T90 - T90
TOX - Toxics Emissions Performance
VOC - VOC Emissions Performance

> (Note: ROX is no longer represented.)

The following is an example of reporting a property using an ASC X12 property code.

150 MEA*TR*ZO*2.00*P1***XX N/L
Measurements

| | | | |
|------|-------|------|---|
| 737 | MEA01 | TR | Measurement Reference ID Code. TR - Test Result |
| 738 | MEA02 | ZO | Measurement Qualifier. ZO - Oxygen |
| 739 | MEA03 | 2.00 | Measurement Value. |
| C001 | MEA04 | P1 | Composite Unit of Measure. P1 - Percent. |
| 935 | MEA07 | XX | Measurement Significance Code. Select one of the following: 44 - Average 45 - Per Gallon |

When reporting the following properties, it is necessary to use an MEA Segment and associated LM and LQ Segments for each of the properties. The codes are the Chemical Abstract Service (CAS) codes that are to be used to report those properties. The MEA Segment contains a Measurement Reference ID (TR), a Measurement Value and a Unit of Measurement. The LM Segment contains CA in LM01 to reference the Chemical Abstract Service. The LQ Segment contains the property code in LQ02.

637-92-3 - ETBE (Ethyl t-Butyl Ether)
64-17-5 - Ethanol
1634-04-4 - MTBE (Methyl t-Butyl Ether)
67-56-1 - Methanol
75-65-0 - t-Butanol
1784-03-8 - TAME (t-Amyl Methyl Ether)

The following is an example of reporting a property using the CAS property code.

150 MEA*TRXX.XX*P1 N/L**

Measurements

- 737 MEA01 TR Measurement Reference ID Code.
TR - Test Result

- 739 MEA03 XX.XX Measurement Value.

- C001 MEA04 P1 Composite Unit of Measure.
P1 - Percent

172 LM*CA N/L

Code Source Information

- 559 LM01 CA Agency Qualifier Code
CA - Chemical Abstract Service

173 LQ64-17-5 N/L**

Industry Code

- 1271 LQ02 64-17-5 Industry Code
64-17-5 - Ethanol

Reporting Distillation Fraction at 200 and 300 degrees farenheit requires one occurrence of a CID and two occurrences of the MEA Segment for each temperature.

060 CID*D7 N/L

Characteristic/Class ID

- 750 CID01 D7 Measurement Qualifier
D7 - Distillation Fraction

150 MEA*EN*D7*200*FA N/L

Measurements

- 737 MEA01 EN Measurement Reference ID Code.
EN - Environmental Conditions

- 738 MEA02 D7 Measurement Qualifier
D7 - Distillation Fraction

- 739 MEA03 200 Measurement Value.

- C001 MEA04 FA Composite Unit of Measure.
FA - Farenheit

150 MEA*TR*D7*XX.X*P1 N/L

Measurements

- 737 MEA01 TR Measurement Reference ID Code.
TR - Test Result

- 738 MEA02 D7 Measurement Qualifier
D7 - Distillation Fraction

- 739 MEA03 XX.X Measurement Value.

- C001 MEA04 P1 Composite Unit of Measure.
P1 - Percent

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TABLE 3

POS SEGMENT/ELEMENT INFORMATION
DE#

010 SE*XX*00001 N/L
Transaction Set Trailer

96 SE01 XX Number of Included Segments (in the transaction).

329 SE02 00001 Transaction Set Control Number. Must be the same as in ST02.