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1. Data Set Description:

This file contains 24-hour integrated measurements of ammonia and nitric acid collected during the September 30, 2000 through May 22, 2001 period at the HRM Site 3, Aldine, and Deer Park Houston Supersite monitoring locations. Samples were collected using a coated annular diffusion denuder downstream of a teflon filter and analyzed by ion chromatography.

Data Set Change History

Measurements of ammonia and nitric acid were quantified as ammonium and nitrate using ion chromatography. Effective August 27, 2004, the *TABLE COLUMN NAME and *TABLE COLUMN CAS IDENTIFIER values in the main data table have been changed from ammonium and nitrate to ammonia and nitric acid to clarify that these are gas-phase measurements. The data set name was changed from "NARSTO EPA_SS_HOUSTON Ammonium and Nitrate Data" to "NARSTO EPA_SS_HOUSTON Ammonia and Nitric Acid Data". See data file name change information below. **No data values were changed.**

The data set should be cited as follows:

Fraser, Matthew. 2004. NARSTO EPA_SS_HOUSTON Ammonia and Nitric Acid Data. Available on-line via [NARSTO Data and Information](#) at the Atmospheric Science Data Center at NASA Langley Research Center, Hampton, Virginia, U.S.A.

The [Houston Supersite](#) is one of several Supersites that was established in urban areas within the United States by the U.S. Environmental Protection Agency (EPA) to better understand the measurement, sources, and health effects of suspended particulate matter (PM). The overall goals were to characterize the composition and identify the sources of particulate matter in Southeastern Texas, to develop and test new methods for characterizing fine particulate matter, and to collect data on the physical and chemical characterization of fine particulate matter that can be used to support exposure and health effects studies.

Specific objectives were to: 1) Collect physicochemical data on fine PM over a 16 month sampling period (August 2000 - November 2001) in Southeastern Texas; use the data to identify sources and to characterize spatial and temporal variability in fine PM source contributions and composition. 2) Compare the spatial and temporal variability in fine PM source contributions and composition in southeastern Texas to variability throughout the United States. 3) Examine the physical and chemical processes that govern PM formation and transformation in Southeastern Texas. 4) Develop a combined database on PM, gas phase air pollutants and meteorological variables, suitable for testing models of the formation and fate of fine PM; this objective was achieved by coordinating with a large, integrated ozone and PM field study conducted during the summer of 2000.

The [U.S. EPA Particulate Matter \(PM\) Supersites Program](#) was an ambient air monitoring research program from 1999-2004 designed to provide information of value to the atmospheric sciences, and human health and exposure research communities. Eight geographically diverse projects were chosen to specifically address these EPA research priorities: (1) to characterize PM, its constituents, precursors, co-pollutants, atmospheric transport, and its source categories that affect the PM in any region; (2) to address the research questions and scientific uncertainties about PM source-receptor and exposure-health effects relationships; and (3) to compare and evaluate different methods of characterizing PM including testing new and emerging measurement methods. Data collected by these projects are publicly available at the NARSTO Permanent Data Archive, NASA Langley Atmospheric Science Data Center. Data users should acknowledge the U.S. EPA Particulate Matter (PM) Supersites Program and the project investigator(s) listed below.

2. Sample Data Record/Data Format:

*FILE CHANGE HISTORY--VERSION NUMBER/DESCRIPTION

Effective date August 27, 2004: The *TABLE COLUMN NAME and *TABLE COLUMN CAS IDENTIFIER values in the main data table have been changed from ammonium/nitrate to ammonia/nitric acid to clarify that these are gas-phase measurements. The data file name was

changed from NARSTO_EPA_SS_HOUSTON_FRASER_NH4_NO3_24HR_V1.csv to NARSTO_EPA_SS_HOUSTON_FRASER_NH3_HNO3_24HR_V2.csv. **No data values were changed.**

Data files are in the NARSTO Data Exchange Standard (DES) format that is described in detail on the [NARSTO Quality Systems Science Center \(QSSC\) web site](#). The files follow a tabular layout and are stored as ASCII comma-separated values files (.csv). The DES does not rely on row position to identify specific information, but uses a tag to describe the information contained in the row. The DES is a self-documenting format with three main sections: the header contains information about the contents of the file and the data originator; the middle section contains metadata tables that describe/define sites, flags, and other codified fields; and the final section is the main data table that contains key sampling and analysis information and the data values. Descriptions of the standardized metadata fields are also available on the QSSC web site.

3. References:

4. Contact Information:

Investigator(s) Name and Title:

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Data Center:

The User and Data Services Office at the NASA Langley Atmospheric Science Data Center is involved throughout the system to monitor the quality of data on ingest, to ensure prompt replies to user questions, to verify media orders prior to filling them, and to ensure that the needs of the users are being met.

If you have a problem finding what you need, trouble accessing the system, or need an answer to a question concerning the data or how to obtain data, please contact the User and Data Services staff.

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URL: <http://eosweb.larc.nasa.gov>

5. Acknowledgement:

When data from the NASA Langley Atmospheric Science Data Center are used in a publication, we request the following acknowledgment be included: "These data were obtained from the NASA Langley Research Center Atmospheric Science Data Center".

The Langley Data Center requests a reprint of any published papers or reports or a brief description of other uses (e.g., posters, oral presentations, etc.) of data that we have distributed. This will help us determine the use of data that we distribute, which is helpful in optimizing product development. It also helps us to keep our product-related references current.

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