Using the Environmental Knowledge and Assessment Tool (EKAT) to Assist Decision Makers

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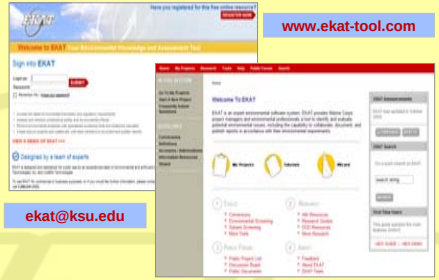
Introduction

The Environmental Knowledge and Assessment Tool (EKAT, www.ekat-tool.com) is a free web-based application to identify, research, and assess environmental and safety-related issues for products and systems. EKAT provides a cost-saving mechanism to expedite evaluation of chemicals for regulatory and safety and health concerns. Its assessment and resource tools help in evaluating, tracking, and mitigating risk. EKAT was designed for Department of Defense (DoD) environmental professionals, material acquisition specialists, and base operations personnel.



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EmisCalc

EmisCalc, EKAT's emissions calculator, estimates pollutant emissions associated with different equipment and process activities, using Environmental Protection Agency (EPA)-approved air pollution factors from the Factor Information REtrieval (FIRE) database. The FIRE database contains emission factors from the Compilation of Air Pollutant Emission Factors (AP-42). The purpose of EmisCalc is to enable users to rapidly generate estimated emissions, using data they readily have on-hand or could rapidly obtain. Different industrial processes are selected through a pull-down menu. Results are useful for air-permitting requirements and can also be seamlessly integrated with an EKAT assessment tool for life-cycle impact evaluations.

Environmental Screenings

The environmental screening tool compares chemicals the user enters to chemicals in the EKAT database and summarizes the results. The EKAT database includes chemicals regulated by federal laws (Clean Air Act, Clean Water Act, Safe Drinking Water Act, etc.), lists of carcinogenic chemicals, Occupational Safety and Health Administration (OSHA) permissible exposure levels, and more. Information resources (IR) in EKAT provide links to original sources of information used in the environmental screening tool.

Wizard

The EKAT Wizard was designed to help users find information in EKAT. The tool is set up in a question-and-answer format to guide users to those sections of EKAT which may be of most use.

Other Key Modules and Capabilities

- **Modified TRACI:** The Tool for Reduction and Assessment of Chemical and other environmental Impacts (TRACI), developed by the EPA, has been adapted to EKAT. TRACI for EKAT allows the user to evaluate the environmental impact of chemical emissions to air or water over the multiple stages of the life of a product, and to make pollution prevention decisions based on this information. EmisCalc data can be integrated with TRACI for EKAT to assess life-cycle impacts.
- **Environmental Safety and Occupational Health (ESOH) Compliance Tool:** The ESOH compliance tool is an interactive set of work sheets covering different types of potential ESOH hazards. Each worksheet contains questions to help analyze potential ESOH issues and record design and field notes or solutions.

Related Center for Hazardous Substance Research Activities: Greenhouse Gas (GHG) Inventory for Kansas State University (KSU)

The GHG emissions inventory being conducted for KSU follows the American College & University Presidents Climate Commitment (ACUPCC) Reporting Instructions. The Clean Air Cool Planet Campus Carbon Calculator™, Version 6.4 is used to calculate GHG emissions for this inventory.

The emissions inventory includes properties and activities under the operational control of the university. The inventory includes GHG emissions for the 2009 calendar year and is planned to be conducted in stages to help facilitate data collection and reporting.

Stage 1 of the GHG Inventory includes the Main Campus in Manhattan, Kansas; Stage 2 of the inventory will include the Alumni Center and KSU Foundation; Stage 3 will include the Salina, Kansas campus; and Stage 4 will include the statewide system of Research and Extension offices and operations, and activities such as commuting.

Summary results from the Clean Air Cool Planet Campus Carbon Calculator™ for the first stage of the GHG evaluation are shown in Table 1 below. The main campus of KSU was responsible for emissions of approximately 198,000 metric tonnes of carbon dioxide (CO_2) equivalents in 2009.

Table 1: Preliminary Findings from a 2009 GHG Inventory for KSU

Emissions Source	Energy Consumption in Millions of BTUs (MMBtu)	Metric Tons of CO_2 Equivalents
On-campus stationary (natural gas) sources	881,000	47,000
Purchased electricity	1,491,000	136,000
Electrical transmission and distribution losses	147,000	13,400
Vehicle transportation	35,000	2,500
Net Emissions		**198,000**