LMTCE-WIPT

NAVAIR Environmental Program

The Hazardous Material Authorized Use List (HMAUL) Analysis Tool [HAT]

A product of the
Lead Maintenance Technology
Center for the Environment (LMTCE)
Working Integrated Product Team (WIPT)
(904) 542-0516, x-122

NAVAIR The Hazardous Material Authorized Use List (HMAUL) Analysis Tool [HAT]

The Hazardous Material Authorized Use List (HMAUL) Analysis Tool or HAT is an automated software tool intended to aid in the identification and reduction of hazardous materials in NAVAIR general series maintenance manuals. It can also be applied to any list of national stock numbers (NSNs) and/or specifications that define consumable materials (items with Material Safety Data Sheet (MSDS) ingredient data). Personnel from the Naval Air Warfare Center (NAWC) Lakehurst in conjunction with the Lead Maintenance Technology Center for the Environment (LMTCE) Working Integrated Product Team (WIPT) developed HAT to identify hazardous materials by analyzing available ingredient data in products supplied to a specified list of NSNs/specifications. The list of specified NSNs/specifications constitutes the HMAUL.

What HAT Does

The Hazardous Material Authorized Use List (HMAUL) Analysis Tool or HAT provides two main functions as follows:

1. Single HMAUL Analysis Function. This function performs a detailed analysis of a single HMAUL file for a particular manual.

2. Master HMAUL Analysis Function. This function consolidates and analyzes multiple HMAUL files providing management overviews for a multitude of manuals.

The HAT also provides information to aid in the reduction of hazardous material usage, such as details for ongoing NAVAIR research and development (R&D) efforts (like the W2210 budget line). Please note that information regarding hazardous material substitution shall not be considered as an endorsement to implement a change. Each opportunity to use a less hazardous material/process must be assessed by the personnel cognizant of the manual or process.

HAT Distribution

Because the HAT contains data from the proprietary version of the Hazardous Material Information System (HMIS), it can only be distributed to and used by US government personnel.

How HAT Works: The Single HMAUL Analysis Function

The single HMAUL analysis function enables users to create HMAUL files by entering a list of NSNs/specifications required in a particular maintenance manual. The HAT extracts supplier formulation data for the HMAUL NSNs/specs and identifies products with hazardous material components. The basic process is outlined in the following diagram:

INPUT NSNs/SPECIFICATIONS
Create a Hazardous Material Authorized Use List (HMAUL) file by entering NSNs/specifications required for a particular maintenance manual.

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LINK TO MAIN DATA SOURCES
HMIS + W2210 + Specification Database

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SPECIFICATION DATA
Extracts specification dates, titles, and status. The status indicates if a specification is active, inactive, or canceled. If canceled, the recommended superseding document can be found at the end of the title. The address and phone number for the owner of each specification is also provided.

HMIS DATA
Extracts supplier and supplier formulation data for the HMAUL NSNs/specifications. Filters formulation data to indicate products containing the following compounds:

EPCRA 313/302, Class I ODS, EPA 17, NEAT 10, or any combination of user selected hazardous materials/chemicals

R&D (W2210) DATA
Details on NAVAIR W2210 projects are provided for HMAUL NSNs/specifications related to each R&D effort. Specifics include:
- Program Manager
- Principal Investigator
- Project Overview
- Complete Project Description

How HAT Works: The Master HMAUL Analysis Function

The master HMAUL analysis function allows users to select any or all of the available single HMAUL files to include in a consolidated master HMAUL file. Once created, the master HMAUL file can be analyzed, providing three main management overviews:

1. Hazardous Materials Analysis. This analysis identifies the NSNs/specs having products that contain user-specified hazardous material ingredients. The identified NSNs/specs and products are then cross-referenced to the single HMAUL files that specify their use.

2. Hazardous Material R&D (W2210) Analysis. This analysis identifies the NSNs/specs materials related to ongoing hazardous material R&D (W2210) efforts. The related NSNs/specs are then cross-referenced to the single HMAUL files that specify their use.

CREATE MASTER HMAUL FILE
Select the single HMAUL files to include in the master HMAUL.

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SELECTED DESIRED ANALYSIS

SPECIFICATION ANALYSIS
Extracts current data for all specifications (dates, titles, status, etc.)

Cross-references the specifications to the single HMAUL files that requires their use.

HAZMAT ANALYSIS
Define desired HazMat Filter:
- **EPCRA 313**
- **EPCRA 302**
- **Class I ODS**
- **EPA 17**
- **NEAT 10**
- **Any combination of user selected hazardous materials/chemicals**

Identifies NSNs/specs containing products that meet the selected HazMat criteria. Cross-reference the NSNs/Specs to the single HMAUL files that require their use.

HAZMAT R&D ANALYSIS
Identifies NSN/spec materials related to ongoing NAVAIR R&D efforts (W2210). Cross-references the related NSNs/specs to the single HMAUL files that specify their use. W22210 data provided includes:
- **Program Manager**
- **Principal Investigator**
- **Project Overview**
- **Complete Project Description**

3. Specification Analysis. This analysis extracts current data for the specifications, such as date, title, status, owner, etc. Each specification is then cross-referenced to the single HMAUL files that specify their use.

For example, if a hazardous material analysis is performed using methyl ethyl ketone (MEK) as the criteria, the NSNs/specs and their products containing MEK will be identified. Output will include the identified NSNs/specs as well as the single HMAUL files that require their use. The basic process is outlined on the previous page.

HMAUL Files Included In The HMAUL Analysis Tool [HAT]

HMAUL File	Title
NAVAIR-01-1A-20	Aviation Hose and Tube Manual
NAVAIR-01-1A-17	Aviation Hydraulics Manual
NAVAIR-01-1A-22	Aircraft Radomes and Antenna Covers
NAVAIR-01-1A-35	Aircraft Fuel Cells and Tanks
NAVAIR-01-1A-34	Aeronautical and Support Equipment Welding
NAVAIR-01-1A-503	Maintenance of Aeronautical Anti-friction Bearings
NAVAIR-17-1-125	Support Equipment Cleaning, Preservation, and Corrosion Control
AN-00A0-510-000	General Series Manual-Unsealing, Sealing and Glass Replacement
NAVAIR-16-1-540	Avionics Cleaning and Corrosion Prevention/Control
NAVAIR-00-80R-14	Natops U.S. Navy Aircraft Firefighting and Rescue Manual
NAVAIR-00-80R-14-1	NATOPS U.S. Navy Aircraft Emergency Rescue Information Manual
NAVAIR-00-80R-20	NATOPS U.S.N. Aircraft Crash & Salvage Ops Manual (Ashore)
NAVAIR-01-1A-1	General Manual For Structural Repair
NAVAIR-01-1A-12	Fabrication Maintenance and Repair of Transparent Plastics
NAVAIR-01-1A-16	Nondestructive Inspection Methods
NAVAIR-01-1A-21	General Composite Repair
NAVAIR-01-1A-39	Naval Aircraft Battle Damage Repair
NAVAIR-01-1A-505	Aircraft Electric and Electronic Wiring
NAVAIR-01-1A-505-1 NAVAIR-01-1A-505-10 NAVAIR-01-1A-505-11	Aircraft Electric and Electronic Wiring
NAVAIR-01-1A-505-12	Aircraft and Electronic Wiring - Connectors MIL-C-26500 (Installation
NAVAIR-01-1A-505-13	Aircraft Elec. and Electronic Wiring, Connectors MIL-C-81703, Ser1,2,3

HMAUL File	Title
NAVAIR-01-1A-505-14	Aircraft Electric and Electronic Wiring
NAVAIR-01-1A-505-15	Aircraft and Electronic Wiring - Connectors MIL-C-24308 (Installation
NAVAIR-01-1A-505-16	Aircraft Electric and Electronic Wiring
NAVAIR-01-1A-505-17	Installation Practices, Aircraft Electric and Electronic Wiring
NAVAIR-01-1A-505-18 NAVAIR-01-1A-505-19 NAVAIR-01-1A-505-20 NAVAIR-01-1A-505-21 NAVAIR-01-1A-505-22 NAVAIR-01-1A-505-23 NAVAIR-01-1A-505-25 NAVAIR-01-1A-505-26 NAVAIR-01-1A-505-28 NAVAIR-01-1A-505-29	Aircraft Electric and Electronic Wiring
NAVAIR-01-1A-505-4	Aircraft and Electronic Wiring - RF Cable
NAVAIR-01-1A-505-6	Aircraft Electrical and Electronic Wiring, Connectors MIL-C-38999, I,II,III,IV
NAVAIR-01-1A-505-7	Aircraft and Electronic Wiring - Connectors MIL-C-81511 Series 1 and 2
NAVAIR-01-1A-505-8 NAVAIR-01-1A-505-9	Aircraft Electric and Electronic Wiring
NAVAIR-01-1A-520	Anti-Icing, De-Icing, and Defrosting of Parked Aircraft
NAVAIR-01-1A-75	Airborne Weapons & Associated Equipment, Consumable Material Applications
NAVAIR-01-1A-9	Aerospace Metals - General Data and Usage Factors (Engineering Series
NAVAIR-04-10-1	O, I, and D-Level Maintenance Instructions - Aircraft Wheels
NAVAIR-04-10-506	Aircraft Tires and Tubes
NAVAIR-17-15-BAD-1	Naval Aircraft and Naval Aircraft Support Equipment Storage Batteries
NAVAIR-17-15E-52	Hydraulic Fluid Contamination Analysis Kit P/N 57L414
NAVAIR-17-5AB-35	Ultrasonic Cleaning and Testing Machine, P/N 36D01-070

Eric Rasmussen • NAWCAD Lakehurst
732-323-7481 • RasmussenEW@navair.navy.mil

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Lead Maintenance Technology Center for the Environment (LMTCE)
Working Integrated Product Team (WIPT)
(904) 542-0516, x-122
http://navair.alc.daps.mil