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Hazardous Technical Information Services

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Green Industry Day

By Leonard Lambert, Technical Information Specialist, HTIS

On June 10, 2010, the Hazardous Minimization and Green Products Branch and the Integrated Supplier Team for chemicals, petroleum, and lubricants co-hosted a “Green Industry Day” at the Defense Supply Center Richmond (DSCR) in Richmond, Virginia. The event was a first of its kind for DSCR, and attracted some 50 vendors who were interested in becoming players in supplying “green” versions of various products in Federal Supply Classes 4235 (Hazardous Material Spill Containment and Clean-up Equipment and Material), 6810 (Chemicals), 6850 (Miscellaneous Chemical Specialties), and 9150 (Oils and Greases: Cutting, Lubricating, and Hydraulic).

Captain Michelle Skubic, USN, Director of Supplier Operations at DSCR, presented the opening remarks, during which she stated that “DLA Aviation involved everything that you might imagine in the global environment, and not just helicopters and airplanes”.

The Green Industry Day unfolded with an overview of the Defense Logistic Agency’s (DLA’s) overall mission to provide the best value integrated logistics solution to America’s Armed forces, and other designated customers in peace and in war, around the clock, and around the world.

Conference attendees were presented information on perfect order fulfillment / attainment to plan, how to establish a national stock number (NSN), and commercial price determination. Speakers on the following major topics provided additional information on how the EPA, DoD and specifically DLA are involved with introducing, promoting, providing or maintaining green products:

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The Defense Logistics Agency Green Products & Hazardous Minimization Warfighter Team —

A DLA Headquarters entity consisting of representatives from DLA Headquarters and each of the Primary Field Level Field Activities that provide command level guidance and leadership on green product issues.

The DSCR Green Products Program —

Established in March 2009, under Mr Calvin Lee, to support DLA's effort to increase the number of green products offered and ordered, to facilitate the development of new DoD green services and products and be a technical resource for the DLA Enterprise.

Green Product Introductions —

A discussion on how alternative (green) products or products that are not harmful or, at least, less harmful to the environment are "born" and the regulatory processes involved in developing such products.

Cataloging Green Items —

Dr. Richard Hansen discussed the Defense Logistics Information Service (DLIS), its mission and responsibilities for the Federal cataloging process. In addition, he pointed to the logistical importance of "form", "fit" and "function" in the selection of products having green environmental characteristics that meet strict definable environmental standards approved by an environmental body.

Bio-Preferred Program —

A US Department of Agriculture (USDA) sponsored program that finds and uses ecologically friendly materials as a replacement for those materials made from petroleum, and other non-renewable resources. Kate Lewis, Deputy Director, Bio-Preferred Program, discussed the program, and how Bio-Preferred products are a big part of the green product movement; and how efforts to make more products from ecologically sensitive bio-based (agriculture feed stocks) materials are also growing.

In discussions with attendees during and after the above discussions, most were satisfied that they had been provided sound details on what DLA/DSCR is looking for in green products, how to get products into the system, and the requirements for those seeking to do business with DLA/DSCR.

At the conclusion of the conference, most attendees agreed that the conference was a success and that they had a better understanding of what the government goes through, the constraints, and others factors involved in the "going green" process that are not seen by vendors. Participants also felt that the increased dialogue provided through this first "Green Industry Day" should be a continuous effort.

News From DoD

DoD Targets Reduced Greenhouse Gas Emissions

By Abdul H. Khalid, Chemical Engineer, HTIS

On January 29, 2010, the Department of Defense (DoD) announced that it would reduce greenhouse gas emissions from non-combat activities 34 percent by 2020 (FY08 Baseline). The Department set the targets in keeping with Executive Order 13514 (Federal Leadership in Environmental, Energy, and Economic Performance) that seeks to have the Federal government lead the country by example through improved energy and environmental performance.

The targets include more than 300,000 buildings and 160,000 fleet vehicles. Buildings and fleet vehicles account for about one quarter of DoD's energy consumption, but nearly 40 percent of its greenhouse gas emissions. However, tactical vehicles such as aircraft, ships and armored vehicles that directly support the war fighter are exempt. Nonetheless, reducing the energy demands of combat activities is a major focus of the Department's energy security strategy.

For more information on the DoD's installations and environment, DoD personnel can visit DoD website at:

<http://www.defense.gov/home/features/2009/0809%5Fgreen/>

Reference:

Defense Officials Announce Greenhouse Gas Targets at — <http://www.defense.gov/home/features/2009/0809%5Fgreen/>

Recent Changes to Compressed Gases Due to BRAC 2005

By Philip Saunders, Chemical Engineer, HTIS

Over the past several years, the Defense Logistics Agency (DLA) has implemented some commodity-wide changes to the way that compressed and liquefied gases are managed and procured in most areas of operation for the US armed services. These changes are in response to the commodity privatization recommendations made by the 2005 Base Realignment and Closure (BRAC) commission. Three commodity management contracts have been executed to cover three major areas of operations: the continental US, Europe and Southwest Asia.

In June of 2006, the first of this trio of contracts, for the European Industrial Gas Support Program, was awarded to International Gas & Services (IGS) from Willebroek, Belgium. IGS is

now responsible for supplying industrial compressed gases to military and Federal activities in Europe, primarily our bases in Germany. The first order proper to this contract was placed in June 2007.

The second of these contracts, for the continental US (CONUS) Industrial Gas Support Program, was awarded to Haas TCM, Inc. in April of 2007, and the first delivery order was placed in June 2007. Haas is now responsible for supplying industrial compressed and liquefied gases to military and Federal activities within the CONUS.

The most recent contract, for the CENTCOM Industrial Gas Support Program, was awarded to Inchcape Shipping Services (ISS), Dubai, UAE. Their area of responsibility is Southwest Asia, encompassing Afghanistan, Iraq and our other Middle Eastern bases. This contract was awarded on Jan 8, 2010 and went into effect in March 2010.

The intent of these contracts is to remove DLA as the middle-man between the vendor and the ultimate customer in the field while preserving an economy of scale that might not be available were those customers to purchase these materials individually. Under these contracts, the customer will use normal procurement procedures to place an order for their desired compressed or liquefied gases (excluding Class I Ozone Depleting Substances managed by the ODS Reserve Program) which the vendor then delivers directly to the customer's site. This contract also transfers responsibility for all supply planning and inventory management to the vendor such that it becomes responsible for minimizing delays between placing an order and the delivery of the product.

Another aspect of this contract is that it transfers the cylinder exchange program to the vendor as well. When the vendor delivers the full cylinders to the customer, the vendor will also pick up government furnished reusable cylinders that are ready to be purged and refilled as part of a closed loop. The activity ordering the compressed gas may either order the gas to come in a refilled cylinder as part of a cylinder exchange, or they can purchase a new cylinder along with its contents. The new cylinder may then enter the exchange program as well.

Depending on the specific contract, these compressed gas programs cover between 13-19 classes of pure or mixed gases with a catalogue ranging from 46 to 62 NSN-distinct grades and sizes. In addition, the NSN used to order a particular grade and size will differ for all three contracts, so that the NSN used to order a gas in Europe is not the same as the NSN used to order the same product in SW Asia.

According to members of the Industrial Gas Industrial Supply Team (IST) at DSCR, there should be little change in the processes that customers use to place their order. The main difference that will be noticed is that customers may be required to order gases with an NSN that differs from what was used in the past. The major benefit for these programs is that customers may notice a significant increase in the speed with which

orders are filled. For example, the CENTCOM (SW Asia) region contract is expected to reduce average lead time for these materials from 55 days to 7 days.

References:

1. "Close Quarters - Managing Stock" by Dianne Ryder, Log-lines, May-June 2010.
2. Brochure: "DSCR Offers an Industrial Gas Support Program for the Continental United States".
3. Brochure: "DSCR Offers an Industrial Gas Support Program for the Continental Europe".
4. Brochure: "Defense Supply Center Richmond Industrial Gas Support Program for Customers in the. Central Command (CENTCOM) Southwest Asia Theater of Operations".
5. Statement of Work, European Industrial Gas Support Program.
6. Statement of Work, CENTCOM Cylinder & Gas Support.

Decision Tree Helps Aircraft Maintainers Pick the Right Compound

Reprint from CURRENTS, the Navy's Environmental Magazine, Winter 2010 edition

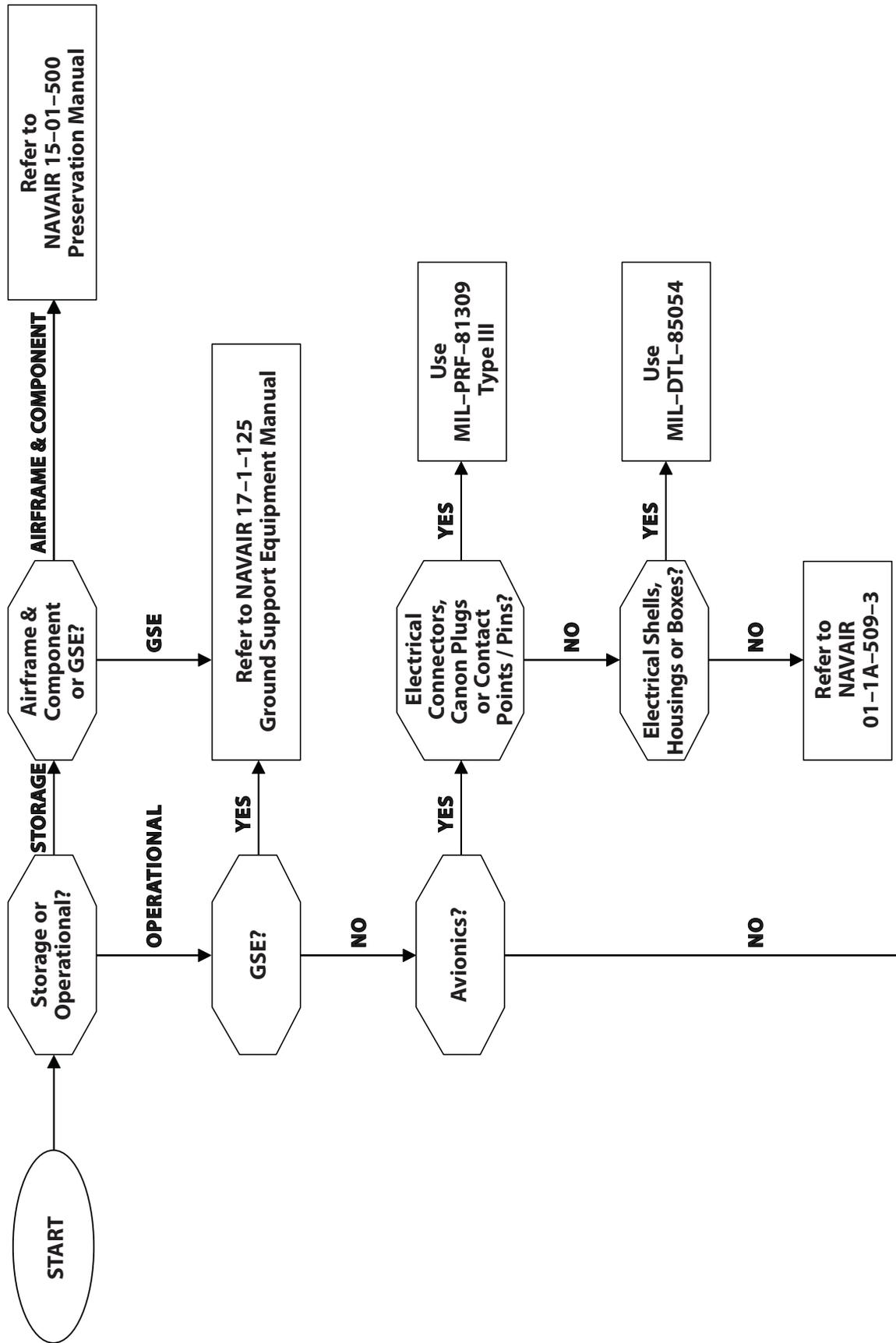
Engineers from the Naval Air Systems Command (NAVAIR) have developed a process flow chart — called the "CPC Decision Tree" — to be used as a reference guide to help aircraft maintainers identify and select the right Corrosion Preventative Compound (CPC) for a specific purpose. The flow chart for corrosion preventative compounds is now available in Aircraft Maintenance Manual.

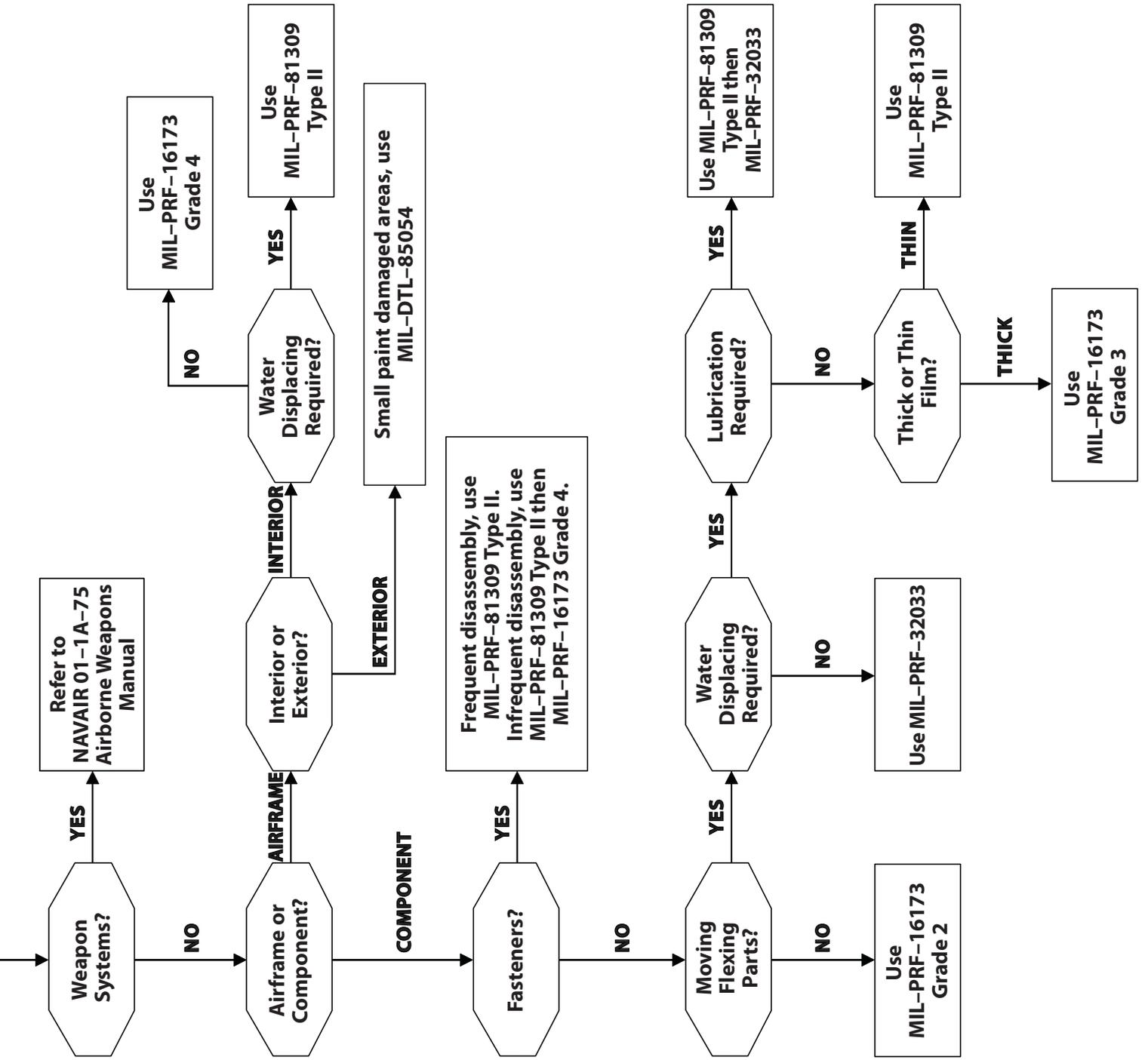
It is very important that aircraft maintainers use CPCs to protect the metal in aircraft. There are thousands of CPCs to choose from, each serving a unique purpose. Due to the environment in which the Navy and Marine Corps operate, CPCs are extremely important in keeping the aircraft fleet ready for tasking.

The CPC Decision Tree is an interactive flow chart that requires the user to know and be familiar with the function of the part/component. Then, depending on the functionality, the flow chart recommends a CPC for a particular application. The CPC Decision Tree was implemented via Interim Rapid Action Change #1 to the NAVAIR 01-1A-509- 2 Aircraft Cleaning and Corrosion Control Manual (the "509 manual") in October 2007.

Aviation Electrician's Mate Chief Raybourn Nutter from Fleet Training explained, "Often aircraft manuals will direct an aircraft maintainer to 'apply CPCs' without specifying a particular product. The CPC Decision Tree is a simple and easy-to-use tool that helps the maintainer to quickly determine the correct CPC to apply in these situations."

CPC Decision Tree





"The CPC Decision Tree was developed to be a quick reference to help the maintainer determine the proper CPC when no specific CPC is called out. The culture of using more CPC will start to change as more attention is placed on them, and that culture change will help prolong the life of the aircraft," said Donald Beasley, Senior Materials Technologist at Navmar Applied Sciences Corporation.

CPCs are used to preserve and protect metal aircraft parts against corrosion. These materials can prevent new corrosion from forming as well as suppress corrosion areas where the original protective coating has degraded. Also, they are a relatively quick and inexpensive way of protecting against corrosive environments. CPCs function by preventing corrosive materials from contacting and corroding bare metal surfaces. Many of these compounds are also able to displace water and other contaminants, and some provide lubrication as well as corrosion protection. Thicker CPCs provide the best corrosion protection, are longer lasting, but are more difficult to remove. Thinner materials provide some lubrication and do not crack, chip, or peel but must be removed and replaced regularly to provide continuing protection.

The aircraft industry has used CPCs for many years as a means of protecting metallic surfaces against corrosion, thus extending the life of the aircraft structure. CPC treatments provide an extra layer of protection and are often recommended in maintenance manuals as a way to help prevent the onset of corrosion in specific areas of the aircraft. Corrosion prevention and control is a regular part of the scheduled maintenance cycle, occurs during unscheduled maintenance and is used to stop corrosion that has already begun.

"Corrosion control improves operational readiness and minimizes costly repairs," said Louise Nicoloff, Senior Materials Engineer at NAVAIR North Island and the technical point of contact for the 509 manual.

Corrosion prone areas of aircraft include fasteners, two connecting metal surfaces, crevices, flat and slat recesses, wing fold joints, hinges, relief tube areas, water entrapment areas, bilge areas and electrical connectors. CPCs are effective only if no moisture, dirt or active corrosion is present. Therefore, the surface must be thoroughly clean and dry before applying the material. Because of their temporary nature, CPCs must be regularly removed and reapplied to provide continuing corrosion protection. Refer to the 509 manual for recommended time intervals for interior and exterior outdoor CPC application.

CPCs are separated into two categories: water displacing and non-water displacing materials. Water displacing CPCs can be used to remove water, sea water, or other electrolytes present on metal surfaces, leaving behind a corrosion inhibiting film to provide corrosion protection. They are usually very thin coatings and are clear or translucent. MIL-PRF-81309, MIL-DTL-85054 and MIL-PRF-32033 are examples of water displacing CPCs that have been qualified to the appropriate

military specification. Most water displacing compounds (except MIL-DTL-85054) are soft, oily compounds which cannot provide long term protection outdoors or in areas that are frequently handled. These CPCs are able to penetrate into cracks, crevices, voids in faying edges, around fastener heads and into hinges.

Non-water displacing CPCs may be used on dried surfaces or on surfaces which have been first treated with a water winter displacing CPC. MIL-PRF-16173 Grades 1, 2 and 4 are examples of nonwater displacing CPCs. They are heavier oils or greases which provide long term corrosion protection. These CPCs provide thicker coatings and are light brown to very dark brown in color with a tack-free, waxy, greasy appearance. They provide good corrosion protection in areas where large amounts of water collect and during long term storage.

Application of CPCs is as easy as brushing, dipping, fogging, and spraying. The area of application, viscosity of the material and conditions under which they need to be applied are factors that determine which method of application is most suitable. Low viscosity materials are best applied by spraying or fogging, whereas high viscosity materials are more suited for brushing or dipping. Spraying with aerosol cans is convenient and the most popular method of applying CPCs. The spraying method is very effective for application to large areas and where confinement is not a problem. Most of the recommended CPC materials are available in the aerosol can unit of issue.

The CPC Decision Tree is found in chapter 8 of the 509 manual. The manual can be accessed through the Naval Air Technical Data and Engineering Service Command web site at <https://mynatec.navair.navy.mil> using a Common Access Card and password.

For additional information, contact:

- **Louise Nicoloff**
Naval Air Systems Command North Island,
PH: 619.545.-9759, or
DSN: 735-9759
eMail: louise.nicoloff@navy.mil; or,
- **Cindy Webber**
Naval Air Warfare Center —
Weapons Division China Lake
PH: 760.939.2060, or
DSN: 437-2060
eMail: cynthia.webber@navy.mil

Reference: http://www.enviro-navair.navy.mil/currents/win-ter2010/Win10_Trends.pdf.

New DoT Guide — Developing a HazMat Training Program

By Ariel Rosa, Environmental Protection Specialist, HTIS

The Department of Transportation (DOT), has published a new document, "What You Should Know: A Guide to Developing a Hazardous Materials Training Program."

This new guide explains the training requirements in the Hazardous Materials Regulations, identifies those employees who must be trained, and provides a tool to help hazmat employers determine what type of training and training environment may be best for their employees. This includes handling, packaging, storing, moving, loading and unloading, of hazardous materials, as well as responding to emergency situations while such materials are in transportation.

The hazardous material transportation process also incorporates functions to design, manufacture, fabricate, inspect, mark, maintain, recondition, repair, or test a package, container or packaging component used in transporting hazardous materials.

Employers with personnel performing these functions as well as planning and response organizations may consult this guide to ensure their employees meet DOT training requirements.

Reference:

<http://www.phmsa.dot.gov/hazmat/training/publications>.

DoT — Special Permits

By Muhammad Hanif, Chemist, HTIS

DOT's Hazardous Materials Regulations (HMRs) constitute a body of rules whose aim is to promote public safety and prevent accidental releases of hazardous materials during their transport. A special permit (SP) is a formal permission from the DOT to allow a company or individual to package or ship a hazardous material in a manner that varies from the regulations, as long as an equivalent level of safety is maintained. According to the PHMSA, special permits also enable the hazmat industry to quickly, effectively and safely integrate new products and technologies into the production and the transportation stream, thus providing a mechanism for testing new technologies, promoting increased transportation efficiency and productivity, and ensuring global competitiveness.

The HMRs generally are performance oriented regulations that provide the regulated community a certain amount of flexibility in meeting safety requirements. Even so, not every transportation situation can be anticipated and built into the regulations. Since one of the strengths of our economy lies in its innovative abilities, the hazardous materials community is particularly strong at developing new materials and technologies and innovative ways of moving materials. Implementation of new technologies and operational techniques enhances safety because the authorized operations or activities may achieve a greater level of safety than currently required under the regulations. Special permits also reduce the volume and complexity of the HMR by addressing unique or infrequent transportation situations that would be difficult to accommodate in regulations intended for use by a wide range of shippers and carriers.

The special permit system is described in 49 Code of Federal Regulations (CFR) Part 107, Subpart B. As stated earlier, a special permit sets forth alternative requirements - or a variance - to those in the HMR in a way that achieves a safety level at least equal to the safety level required under the regulations, or that is consistent with the public interest. To acquire a special permit, a petitioner must describe in detail the steps to be taken to ensure that the alternate method used to prepare the consignments of hazardous materials will be at least as safe as those of standard consignments. The DOT will review and approve or disapprove each permit application. Once a special permit is approved, another company or individual who would like to offer for transport or transport a hazardous material, or perform an operation in association with a hazardous material in the same manner as the original permit applicant, may become a party to it since there are fewer administrative requirements. Additionally, special permits are provided for the manufacture, marking, sale and use of certain packagings for the transportation of hazardous materials, and are also issued to the packaging manufacturer, and provided for use of the packagings by hundreds and possibly thousands of distributors, shippers, carriers and users.

As a condition of a DOT issued special permit, and depending on its provisions, a copy of each special permit must be:

1. Maintained at each facility where an operation is conducted or a packaging is manufactured under a special permit;
2. Maintained at each facility where a package is offered or re-offered for transportation under a special permit; and,
3. In some cases, carried aboard each transport vehicle used to transport a hazardous material under a special permit.

In most cases, the special permit number must be marked on the package to communicate the variance to carriers and other individuals in the cycle of transportation. If a carrier

refuses a package because the carrier operator is uncertain of its compliance with the regulations, providing a copy of the permit to the carrier for review would be a best business practice. A special permit may relieve a package of hazardous materials from carrier regulations, but the carrier is required to be a party to the special permit. If the permit does not provide relief from any applicable carrier regulations, then the carrier does not need to be a party to the permit, unless the permit itself specifies otherwise.

HMR Amended to Incorporate Special Permits

By Muhammad Hanif, Chemist, HTIS

On May 14, 2010, the Department of Transportation's (DOT), Pipeline and Hazardous Materials Safety Administration (PHMSA), issued a final rule amending the Hazardous Materials Regulations (HMR) by incorporating provisions contained in certain widely used or longstanding special permits that have an established safety record. The effective date for these amendments is October 1, 2010, but voluntary compliance was authorized on June 14, 2010.

- Authorize damaged or leaking cylinders containing a division 2.1, 2.2, 2.3, 6.1, or a class 3, or 8 materials overpacked in salvage cylinders to be transported in cargo vessel and motor vehicle only. Incorporation is consistent with the provisions of DOT-SP 14168.
- Allow liquid contents in quantities greater than 10% of the capacity in a mechanical displacement meter prover to the extent that draining of the meter prover is impracticable under Sec. 173.5a(b). The affected special permit includes DOT-SP 14405.
- Authorize the transport of waste Division 4.2, Packing Group (PG) I material and Division 5.2 (organic peroxide) materials in lab packs, and the transport of waste Division 6.1 PG I (Hazard Zone A) material with other waste materials if packaged in accordance with 49CFR173.226(c) of the HMR, and further packaged in an overpack of a specification UN steel or plastic drum at the PG I performance level. In addition, for greater clarity, the rule also includes several conforming amendments to the segregation requirements in Parts 174, 176, and 177 to specify that the requirements do not apply to Division 6.1 PG I (Hazard Zone A) material transported in conformance with 49CFR173.12(e). Under Sec. 173.12, the affected SPs are: DOT-SP 10791, 12296, 12668, 12682, 12749, 12826, 12927, 13192, 13285, 13937, 14510, and 14817.
- Authorize, for certain hazardous materials, external visual inspection of the rupture disc in a non-reclosing pressure relief device of a rail tank car without requiring removal of the rupture disc Sec. 173.31. The affected special permits include DOT-SP 11761 and 11864.

- Authorize the transportation of certain specially designed radiation detectors containing a Division 2.2 (non-flammable gas) material under a new section Sec. 173.310. The affected special permits include DOT-SP 9030, 9940, 10407, 12131, 12415, 13026, 13109 and 13244.
- Allow a greater gross weight limitation (up to 500 kg (1,100 pounds)) for packages used for the transport of aerosols for the purposes of recycling or disposal under Sec. 173.306 and revising language in paragraph 173.306(k)(1) to clarify that the gross weight limitation of 500 kg (1,100 pounds) applies to the strong outer packaging and its contents, not just the strong outer packaging.
- Allow rail tank cars to exceed the gross weight on rail limitations upon approval from the Federal Railroad Administration (FRA) under Section 179.13. The affected special permits include DOT-SP 11241, 11654, 11803, 12423, 12561, 12613, 12768, 12858, 12903, 13856, 13936, 14004, 14038, 14442, 14505, 14520, 14570, and 14619.
- Eliminate several requirements in Sec. 107.109 for submitting duplicate copies of applications for special permit, party status, or renewal when the applications are submitted electronically.
- Require a certification of understanding of the special permit by persons submitting an application for party status to a special permit as amended paragraph 108.109(a)(3).

The amendments in this final rule will eliminate the need for approximately 510 current grantees to reapply for renewal of 44 special permits every four years, and for the PHMSA to process those renewal applications.

The revisions in this final rule are intended to provide a wider access to this regulatory flexibility, and to eliminate the need for numerous renewal requests, thus reducing paperwork burdens and facilitating commerce while maintaining an appropriate level of safety.

For further information or clarification, you may contact Eileen Edmonson or Dirk Der Kinderen, Office of Hazardous Materials Standards, (202) 366-8553, or Diane LaValle, Office of Hazardous Materials Special Permits and Approvals, (202) 366-4535, Pipeline and Hazardous Materials Safety Administration (PHMSA), 1200 New Jersey Avenue, SE., Washington, DC 20590.

References:

1. Final Rule: Federal Register (FR) Vol. 75, No. 93, Friday, May 14, 2010, Pages 27205- 216, (75 FR 27205).
2. NPRM: FR Vol. 74, No. 244, Tuesday, December 22, 2009, Pages 68004-15 (74 FR 68004).

REACH List of Chemicals for 2010 Registrations

By Abdul H. Khalid, Chemical Engineer, HTIS

On April 16, 2010, the European Union (EU)'s Chemicals Agency (ECHA) published a list of more than 4,000 chemicals for registration under the Registration, Evaluation, and Authorization of Chemicals (REACH). The list is available from the ECHA's website: http://echa.europa.eu/doc/echa_chem/list_identified_registrations_2010.pdf.

These chemicals are expected to be registered by the EU companies on or before the deadline of November 30, 2010 in compliance with the EU's REACH legislation. If a substance should be registered in 2010, and it is not, then it will be illegal to manufacture or sell it within the EU after November 30, 2010. ECHA updates this list periodically.

It is important for the downstream users to check and consult the list to make sure that their high volume and hazardous substances are included. The critical chemical substances must be registered according to the instructions as given from time to time by ECHA. Lower volume and less hazardous substances do not have to be registered this year. REACH legislation applies to substances manufactured in, or imported into the EU in annual volumes of 1,000 metric tons or more, and to some toxic substances at lower volumes.

REACH requires companies to share substance data, and utilize joint registrations through Substance Information Exchange Forums (SIEFs). The compliance principle is, "one substance, one registration."

For more information on downstream users, intended 2010 registrations, and information about the ECHA, visit ECHA website at:

http://echa.europa.eu/chem_data/list_registration_2010_en.asp.

Reference: ECHA News Alert: "Downstream Users can check list of intended 2010 registrations" April 16, 2010.

EPA Opens Access to Chemical Information

Reprint from the EPA submitted by Ariel Rosa, HTIS

The U.S. Environmental Protection Agency (EPA) is making it easier to find chemical information online. On April 29, 2010, it announced that it was releasing a searchable database on chemical hazard, exposure and toxicity data, called toxicity reference database (ToxRefDB), which allows scientists and

the interested public to search and download thousands of toxicity testing results on hundreds of chemicals. ToxRefDB captures 30 years and \$2 billion of testing results.

"Tens of thousands of chemicals are in commerce and current chemical testing is expensive and time consuming. Results from chemical testing are scattered throughout different sources," said Dr. Robert Kavlock, director of the EPA's National Center for Computational Toxicology. "ToxRefDB allows the public to search, find and compare available studies about chemical toxicity and potential health effects."

ToxRefDB provides detailed chemical toxicity data in an accessible format. It is a part of ACToR (Aggregated Computational Toxicology Resource), an online data warehouse that collects data from about 500 public sources on tens of thousands of environmentally relevant chemicals, including several hundred in ToxRefDB. Those interested in chemical toxicity can query a specific chemical and find all available public hazard, exposure, and risk-assessment data, as well as previously unpublished studies related to cancer, reproductive, and developmental toxicity.

ToxRefDB connects to an EPA chemical screening tool called ToxCast. ToxCast is a multi-year, multi-million dollar effort that uses advanced science tools to help understand biological processes impacted by chemicals that may lead to adverse health effects. ToxCast currently includes 500 fast, automated chemical screening tests that have assessed over 300 environmental chemicals. ToxRefDB, along with ACToR, allows users to take advantage of this linkage to find and download these results.

ToxRefDB contains toxicity information that forms the basis for pesticide risk assessments when combined with other sources of information, such as those on exposure and metabolism.

Reference: <http://actor.epa.gov/toxrefdb>

Occupational Safety & Health News

OSHA's Frequently Cited Standards

By Beverly Howell, Industrial Hygienist, HTIS

Each fiscal year, the Occupational Safety and Health Administration (OSHA) unveils the top ten standards frequently cited by their compliance officers during inspections. The standards listed below were cited during October 1, 2008 through September 30, 2009, fiscal year 2009. This information can serve as a useful tool for installations occupational safety and health

personnel to ensure compliance at their facilities. Scaffolding which was number one in 2008 has retained the number one position. Fall protection is number two and Hazard Communication is still among the top three, a constant OSHA concern.

1. Scaffolding, general requirements, construction (29 CFR 1926.451)

In a Bureau of Labor and Statistics (BLS) study, 72% of workers injured in scaffold accidents attributed the accident either to the planking or support giving way, or to the employee slipping or being struck by a falling object.

2. Fall protection, construction (29 CFR 1926.501)

Any time a worker is at a height of four feet or more, the worker is at risk and needs to be protected. Fall protection must be provided at four feet in general industry, five feet in maritime and six feet in construction. However, regardless of the fall distance, fall protection must be provided when working over dangerous equipment and machinery.

3. Hazard communication standard, general industry (29 CFR 1910.1200)

In order to ensure chemical safety in the workplace, information must be available about the identities and hazards of the chemicals. OSHA's Hazard Communication Standard (HCS) requires the development and dissemination of such information:

- Chemical manufacturers and importers are required to evaluate the hazards of the chemicals they produce or import, and Prepare labels and material safety data sheets (MSDSs) to convey the hazard information to their downstream customers.
- All employers with hazardous chemicals in their workplaces must have labels and MSDSs for their exposed workers, and train them to handle the chemicals appropriately.

4. Respiratory protection, general industry (29 CFR 1910.134)

An estimated 5 million workers are required to wear respirators in 1.3 million workplaces throughout the United States. Respirators protect workers against insufficient oxygen environments, harmful dusts, fogs, smokes, mists, gases, vapors, and sprays. These hazards may cause cancer, lung impairment, other diseases, or death.

5. Control of hazardous energy (lockout/tagout), general industry (29 CFR 1910.147)

Approximately 3 million workers service equipment and face the greatest risk of injury if lockout/tagout is not properly implemented. Compliance with the lockout/tagout standard prevents an estimated 120 fatalities and 50,000 injuries each year. Workers injured

on the job from exposure to hazardous energy lose an average of 24 workdays for recuperation. In a study conducted by the United Auto Workers (UAW), 20% of the fatalities (83 of 414) that occurred among their members between 1973 and 1995 were attributed to inadequate hazardous energy control procedures specifically, lockout / tagout procedures.

6. Ladders, construction (29 CFR 1926.1053)

The US Department of Labor (DoL) lists falls as one of the leading causes of traumatic occupational death, accounting for eight percent of all occupational fatalities from trauma. Any time a worker is at a height of four feet or more, the worker is at risk and needs to be protected. Fall protection must be provided at four feet in general industry, five feet in maritime and six feet in construction. However, regardless of the fall distance, fall protection must be provided when working over dangerous equipment and machinery.

7. Powered industrial trucks, general industry (29 CFR 1910.178)

Each year, tens of thousands of injuries related to powered industrial trucks (PIT), or forklifts, occur in US workplaces. Many employees are injured when lift trucks are inadvertently driven off loading docks, lifts fall between docks and an unsecured trailer, they are struck by a lift truck, or when they fall while on elevated pallets and tines. Most incidents also involve property damage, including damage to overhead sprinklers, racking, pipes, walls, and machinery. Unfortunately, most employee injuries and property damage can be attributed to lack of safe operating procedures, lack of safety-rule enforcement, and insufficient or inadequate training.

8. Electrical, wiring methods, components and equipment, general industry (29 CFR 1910.305)

Working with electricity can be dangerous. Engineers, electricians, and other professionals work with electricity directly, including working on overhead lines, cable harnesses, and circuit assemblies. Others, such as office workers and sales people, work with electricity indirectly and may also be exposed to electrical hazards

9. Electrical systems design, general requirements, general industry (29 CFR 1910.303)

Electric equipment shall be free from recognized hazards that are likely to cause death or serious physical harm to employees. Suitability of equipment for an identified purpose may be evidenced by listing or labeling for that identified purpose.

10. Fall protection, training requirements (29 CFR 1926.503)

Identifying fall hazards and deciding how best to pro-

tect workers is the first step in reducing or eliminating fall hazards. Occupational fatalities caused by falls remain a serious public health problem. The US Department of Labor (DOL) lists falls as one of the leading causes of traumatic occupational death, accounting for eight percent of all occupational fatalities from trauma.

NIOSH Addresses — Nanomaterial Exposure Issues

By Ariel Rosa, Environmental Protection Specialist, HTIS

In February 2010, the National Institute for Occupational Safety and Health (NIOSH) announced the release of three new peer-reviewed articles co-authored by NIOSH researchers. According to NIOSH, these articles report findings and conclusions from studies that examined issues related to the potential occupational exposure to engineered nanomaterials.

Two articles in the Journal of Occupational and Environmental Hygiene (JOEH) review the design and application of the nanomaterial emission assessment technique (NEAT), which NIOSH's nanotechnology field evaluation team developed:

- Part A (JOEH 7:127-132) describes the technique; and
- Part B (JOEH 7:163-176) discusses the findings from the use of the technique at 12 facilities.

The third article, highlighted as a "featured research" paper in Environmental Health Perspectives, examines the potential for occupational exposure to engineered carbon-based nanomaterials (CNMs) in environmental laboratory studies.

The article reports that a substantial release of CNMs occurs during "sonication". This is a common laboratory process used to break apart agglomerates of nanomaterials into aqueous dispersions. "Sonication" generates a CNM-containing mist which a worker can potentially inhale, or that leave CNMs on laboratory surfaces after the water has evaporated.

Reference: <http://www.cdc.gov/niosh/topics/nanotech>

Hexavalent Chromium — Notification Requirements Revised

By Beverly Howell, Industrial Hygienist, HTIS

Notifying employees of their exposures, arm them with knowledge that can permit and encourage them to be more proactive in working safely to control their own exposures through better work practices and by more actively participating in safety programs. In a direct final rule published

March 17, 2010, the Occupational Safety and Health Administration (OSHA) revised the paragraph containing notification requirements in the standard's exposure determination provision.

Previously, the paragraph that covered employee notification limited its requirements to circumstances in which Cr (VI) exposures exceeded the permissible exposure limit (PEL).

After reviewing the rulemaking record on this issue, and reconsidering the provision in question, OSHA has decided to revise the notification requirements, by means of a direct final rule to require employers to notify employees of the results of all exposure determinations.

This direct final rule became effective on June 15, 2010.

Note: Occupational Safety and Health Administration (OSHA) published a final rule for the Occupational Exposure to Hexavalent Chromium (Cr(VI)), on February 28, 2006.

DFARS Case 2009-D004 — Minimizing Use of Cr6+

By Fred Tramontin, Chemical Engineer, HTIS

In the April 8, 2010, Federal Register, the DoD's Defense Acquisition Regulation System (DARS) proposed a rule to amend the Defense Federal Acquisition Regulation Supplement (DFARS) to address requirements for minimizing the use of hexavalent chromium in defense weapon systems, subsystems, components, and other items. The proposed rule prohibits the delivery of items containing hexavalent chromium under DoD contracts unless an exception applies. On April 8, 2009, the Under Secretary of Defense (Acquisition, Technology and Logistics) issued a memorandum establishing policy for the minimization of hexavalent chromium. Key elements of this memorandum appeared in the Jan-Feb2010 issue of this Bulletin.





Defense Supply Center Richmond

DSCR-VBC

8000 Jefferson Davis Highway
Richmond, VA 23297-5609

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Commander,
Defense Supply Center Richmond
RADM Vincent Griffith, USN

Director,
Aviation Engineering
Karron Small

Chief,
Hazardous Information Programs Division
Edilia A. Correa

Chief,
Hazardous Technical Information
Services Branch
Fred J. Tramontin, Ph.D.

Editor, HTIS Bulletin
Leonard S. Lambert

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The HTIS Bulletin is designed to keep DoD personnel informed of technical and regulatory developments on the environmentally safe management of hazardous materials and wastes.

Defense Supply Center Richmond
DSCR-VBC
8000 Jefferson Davis Highway
Richmond, VA 23297-5609

For Technical Inquiries, Call:
Commercial: 804.279.5168 • DSN: 695.5168
Toll Free: 800.848.HTIS (4847) • FAX: 804.279.4194
eMail To: htis@dscr.dla.mil

Or, visit us on the WEB:
<http://www.dscr.dla.mil/ExternalWeb/UserWeb/aviationengineering/HTIS/>